REPORT RESUMES

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THE ECONOMICS OF EDUCATIONAL TELEVISION, A REPORT ON THE NATIONAL CONFERENCE HELD AT BRANDEIS UNIVERSITY, MAY 23-26, 1963.

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BRANDEIS UNIV., WALTHAM, MASS.
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PARTICIPANTS IN THE NATIONAL CONFERENCE ON ETV HELD AT BRANDEIS UNIVERSITY IN 1963 WERE AGREED THAT ETV'S PROMISE IS MORE ANTICIPATED THAN ACHIEVED AND THAT ITS BUILT-IN ECONOMIC PROBLEMS MUST BE MET AND OVERCOME BEFORE REAL ACHIEVEMENT WILL BE POSSIBLE. PROBLEMS DISCUSSED DURING THE CONFERENCE INCLUDED COSTS, CAPITAL INVESTMENT, AND UNIONS. CONCLUSIONS AND RECOMMENDATIONS WERE THAT (1) TEACHERS SHOULD RECEIVE SPECIAL TRAINING IN INSTITUTIONAL TELEVISION USE, (2) EXTENSIVE RESEARCH SHOULD BE CONDUCTED INTO WHAT CONSTITUTES A GOOD INSTRUCTIONAL TELEVISION PROGRAM--IN TEACHING TECHNIQUES AND SUBJECT MATTER, AND (3) SCHOOL SYSTEMS SHOULD CARRY THE MAJOR ECONOMIC BURDEN OF INSTRUCTIONAL TELEVISION. (LP)

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THE ECONOMICS OF EDUCATIONAL TELEVISION

A report on the national conference held at
Brandeis University May 23-26, 1963, under
the sponsorship of the American Academy of
Arts and Sciences, Brandeis University and
the United States Office of Education

Edited and with commentary by RALPH GARRY,
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of Education, Boston University

August 1964

The Lester S. and Alfred L. Morse
Communication Research Center

Brandeis University
Waltham, Massachusetts

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FOREWORD

In 1950 the 100th television station in the United States opened: WOI-TV at Iowa State College. It was the first educational station in regular operation. These hundred stations, all commercial but one, had been built in four years. Educational television was to develop more slowly. Fifteen years would pass before a hundred educational stations were in operation.

The quarter of a million dollars or more needed to start an educational television station is but the beginning. A heavy and continual influx of capital is required to keep the station alive.

Educational television is at its beginning in another sense. Two laws passed in the last five years have paved the way for its more rapid expansion. The National Defense Education Act provides federal funds for research in the uses of the new media, including television. The Educational Television Facilities Act provides capital funds on a matching basis for the construction of educational television stations. As a result, the past four years have seen a rapid expansion in the use of television for instructional purposes. Seven million or more students in schools and colleges are receiving some instruction by means of open and closed-circuit television. Research has proven that television functions well as a teaching tool.

Another beginning has been made by educational television. The stations operated by private non-profit organizations, the so-called "community stations," are attempting to meet the special needs of home audiences. Over half of our people are now within reach of an educational television signal. Since April 1964, all U. S. made television sets must be capable of receiving all channels. As a result, the UHF channel assignments reserved for educational use by the Federal Communications Commission will soon provide access to the total television audience, thus accommodating special needs even more.

To achieve this demands skillful programming. This involves the costly elements of talented and trained personnel, and time for experimentation, research and creation. Programs that serve our home and school audiences well, programs that meet both local and national needs, are costly. Educational television's promise is more anticipated so far than achieved. To fulfill its missions, educational television must learn to meet and overcome its built-in economic problems. This volume examines these problems.

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CHAPTER 1

INTRODUCTION

On May 23, 1963 fifty men and women met at Themis House, Brandeis University to consider the economics of educational television. The conference members were selected by the three sponsoring organizations--the American Academy of Arts and Sciences, Brandeis University and the United States Office of Education. They came from diverse occupations and brought varied perspectives to the discussions. Unlike a group composed entirely of educators or broadcasters, they had no vested interests as a whole, in educational television. Their views were more detached and reflected the attitudes of involved citizens who will influence ETV decisions in communities across the land. The participants were:

Sidney Alexander	Professor of Industrial Management, Massachusetts Institute of Technology
James Armsey	Program Director, Special Program in Education, Ford Foundation
Chester D. Babcock	Assistant Superintendent, Curriculum and Instruction, Department of Public Instruction, State of Washington
George E. Bair	Education Director, South Carolina Educational Television Center
Robert C. Bates	Secretary, Rockefeller Brothers Fund
John Bebout	Director, Urban Studies Center, Rutgers University
* Jerome S. Bruner	Director, Center for Cognitive Studies, Harvard University
* Ralph Burhoe	Executive Officer, American Academy of Arts and Sciences
Theodore Conant	Television Consultant, Ford Foundation
Lewis A. Coser	Professor of Sociology, Brandeis University
* Louis G. Cowan	Chairman; Director, Morse Communication Research Center, Brandeis University

Kenneth Cox	Commissioner, Federal Communications Commission
John M. Culkin, S.J.	Consultant on Television, National Catholic Educational Association; Communication Arts Department, Fordham University
Hal Davis	Assistant to the Chairman of the Board, Grey Advertising, Inc.
James Day	General Manager, KQED, San Francisco
Frederick W. Ford	Commissioner, Federal Communications Commission
Martha Gable	Director of Television and Radio Education, Philadelphia Public Schools
* Ralph Garry	Professor of Education, Boston University
Hyman H. Goldin	Chief, Research and Education Division, Federal Communications Commission
Stephen Graubard	Editor of Daedalus, American Academy of Arts and Sciences, Harvard University
* Hartford N. Gunn, Jr.	General Manager, WGBH, Boston
William G. Harley	President, National Association of Educational Broadcasters
* Leland Hazard	Director-Consultant, Pittsburgh Plate Glass Co.
* Gerald Holton	Professor of Physics, Harvard University
John Howe	Assistant to the Publisher and Chairman, Encyclopedia Britannica
Raymond D. Hurlbert	General Manager, Alabama ETV Commission

---

* Members of the Steering Committee responsible for planning the conference. Additional Steering Committee members were:

Clarence Q. Berger	Dean of University Planning and Development, Brandeis University
Irby Carruth	President, American Association of School Administrators
Bruce Chalmers	Professor of Metallurgy, Harvard University
Philip Coombs	Guest Scholar, Brookings Institution and former Assistant Secretary of State
Leonard Levy	Dean of Faculty, Brandeis University

Is this "footnote" meant to follow name of Nicholas Zappa on p. 4?

L, W, Z, J?

John F. White	President, National Educational Television and Radio Center
Harold Weisberg	Dean of the Graduate School, Brandeis University
Jerrold Zacharias	Professor of Physics, Massachusetts Institute of Technology
Louis L. Jaffe	Professor of Administrative Law, Harvard Law School
Eugene I. Johnson	Head, Civic Education Center, Washington University, St. Louis
Joseph Kershaw	Professor of Economics, Williams College
Bennet H. Korn	President-Television, Metromedia, Inc., WNEW-TV, N.Y.
Philip Lewis	Director of Research, Development and Special Projects, Board of Education, Chicago
Ralph Lowell	Chairman, Boston Safe Deposit and Trust Co., and Chairman Emeritus, National Educational Television and Radio Center
Isador Lubin	Economic Consultant, Twentieth Century Fund
Leonard Miall	Assistant Controller Programme Service, BBC
Joseph Mindel	Assistant to the Director, Lincoln Laboratory, MIT
* Henry Morgenthau	Associate Director, Morse Communication Research Center, Brandeis University
Kermit C. Morrissey	Assistant to the President and Lecturer in Politics, Brandeis University
J. C. Paltridge	Statewide Coordinator of Educational Television, University of California
Harriet Pilpel	Partner, Greenbaum, Wolff & Ernst
Ithiel de Sola Pool	Professor of Economics, Massachusetts Institute of Technology
* Edward M. Purcell	University Professor, Harvard
F. B. Rainsberry	Supervisor, School Broadcasts, Canadian Broadcasting Corp.
Lawrence Rogin	Director of Education, AFL/CIO
David G. Ryans	Head, Center for Research in System Development, System Development Corp.

Robert M. Segal	Counsel for Massachusetts State Labor Council, AFL/CIO
Robert E. Slaughter	Senior Vice-President, McGraw-Hill Book Co.
Bernard B. Smith	Attorney and author of articles on television problems
* Seth Spaulding	Chief, Research and Services Section, Educational Media Branch, Office of Education, Department of Health, Education and Welfare
Glenn Starlin	Director of Broadcasting, University of Oregon
David C. Stewart	Director, Washington Office, National Educational Television and Radio Center
Elizabeth Sweeney	Editorial Researcher, CBS REPORTS
Stephen White	Associate Director, Educational Services, Inc.
Harold Wigren	Educational Television Consultant, National Education Association
Nicholas Zapple	Communications Counsel, Senate Commerce Committee

In view of the conference subject, would not an intensive study of financial data by a group of economists have been more appropriate? The idea was rejected as inadequate, serving better a specific station in a specific community. Its specific financial problems can be analyzed internally and in relation to the educational and broadcasting activities in the community. But comparisons of such data from a number of stations are impossible because of the lack of uniform accounting procedures. Furthermore, the economic questions and the broadcast objectives or goals are intrinsically related. Commercial stations can judge their success in simple terms: has the station shown a profit; is its performance satisfactory for renewal of license to broadcast? In educational television, the question is what has been accomplished: did the yield justify the expense? But yield is at best a subjective estimate of community needs and of fulfillment. Thus any discussion of the economics of educational television must at once bow to the purpose of its existence and how well the community has benefitted from it.

Assuming that program schedules represent an operational definition of station objectives, one finds commercial stations--at least the vast majority of those having network affiliation--broadcasting on fairly similar program schedules. The educational stations are, by contrast, a rather loosely knit confederation of independent stations. Hours and days of broadcast vary considerably. Wide variation exists in both program content and quality. Therefore while the viewer of commercial stations can count on a regular service, of good technical quality, fairly predictable in content, with authority and style, the educational viewer can get no such assurance. Thus, consideration of ETV economics necessitated parallel examination of its total objectives and the conflicts regarding them. This over-reached the purview of the economist alone.

In any determination of goals and objectives for educational television, a number of difficult and complex questions must be answered.

> What are the appropriate target audiences--the intellectual mandarins, the middle-brow or the mass audience? What are its responsibilities to the aging, to children, to women, to migratory citizens? Should television aim to serve their separate interests and needs or should it seek to integrate the isolated groups in our society, generation cut off from generation, black man from white, rich from poor, farm from metropolis, city from suburb?
>
> Is education to be interpreted in the narrow or the broad sense? Should ETV consist of formal instruction or should it include a variety of informal and cultural programs? Is ETV best used as an experimental medium, developing new program patterns that deal with controversial issues such as birth control, guerrilla warfare, integration, foreign policy, local political problems, and so forth? Should ETV attempt to be an ever-normal culture granary instead, recapitulating our cultural best?
>
> Is the use of broadcast television for in-school programs justified? Or should these be restricted to closed-circuit and low-power TV? If it is justified, should television be used to supplement the work of the classroom teacher, as a substitute for teachers, or as part of an

integrated instructional system utilizing a variety of new educational media? The first uses television's capacity to span distance, to bring new experience, to provide immediacy to learning; the next uses television's distributive capacity to bring talented teachers into many classrooms; the last uses television's unique potential for making visual, for movement, for magnification, for discovery and linking these with other educational techniques.

What approach should be taken--the historic one of clarifying the world subject by subject, teacher by teacher, talk by talk, or should television be used to clarify what is happening in the world, event by event, theme by theme? What responsibilities can it assume for taste development, social values and attitudes, and problem solving and critical analysis? Does it have a role to play with respect to unemployment and retraining, urban development, and poverty?

What is the appropriate distributive unit--the school district, the state board of education, the independent agency--airborne or otherwise, the national program board? And how should the unit be determined--philosophically, economically, politically, geographically?

What is the more effective organizational pattern for educational stations? Should they join in a fourth network competing with or supplementing commercial television? Should the emphasis be instead on live-local stations with strong community identification, supplemented by programs supplied by a national program board or regional program centers? Would a better combination be a series of regional networks or a series of state networks? What sources will provide what financial support and what restrictions on broadcasting freedom are involved?

Given ample funds, what of the talents needed to create and develop effective programs--which interest and appeal as well as inform and educate? Is the argument that instructional integrity and showmanship and entertainment are inimical really valid or is it an excuse for inability to communicate and a penchant for professorial jargon? What skills are needed to mix education and entertainment in appropriate proportion, to provoke action by the viewer and direct it into necessary channels? What sort of apprenticeship is needed to foster such skill?

In juxtaposition, the alternatives pose an either/or, all-or-none finality of choice which is not true in all instances. A decision to use a channel for daytime school broadcasts obviously precludes its use for daytime home programs. However, a decision to broadcast instructional programs for adults does not preclude the allocation of time for cultural programming.

In all instances the choice of what ETV should be and how it should be supported is complex. Certain questions can be answered empirically. Others remain as problems to be solved. Questions of policy must be determined by judgments comprised of philosophical, economic and social considerations. Such judgments will be executed at all levels: by government officials, by citizen's committees, by private organizations and by station personnel.

The conference participants unofficially represented these various constituencies. To prepare them for their deliberations, a series of background papers and speeches were provided them prior to and during the conference. Financial data was derived from a variety of sources and where important, updated for purposes of this publication. Public service, educational, documentary and cultural programs, selected from educational and commercial sources were shown at the conference.

Figure 1 presents a schematic diagram of the conceptual framework employed in developing the necessary information regarding community needs, goals, production and distribution, quality control and support. The reader will note the division between instructional television and general broadcasting by educational stations. Although the division is an arbitrary one, the difference in program objectives, control over audience, and sources of revenue made such a division useful in considering the economic problems. The background papers were developed to provide information on the many aspects of educational television identified in the diagram. The authors of the papers met for planning sessions to coordinate their efforts, and several participated in the conference. The remaining chapters in this book constitute

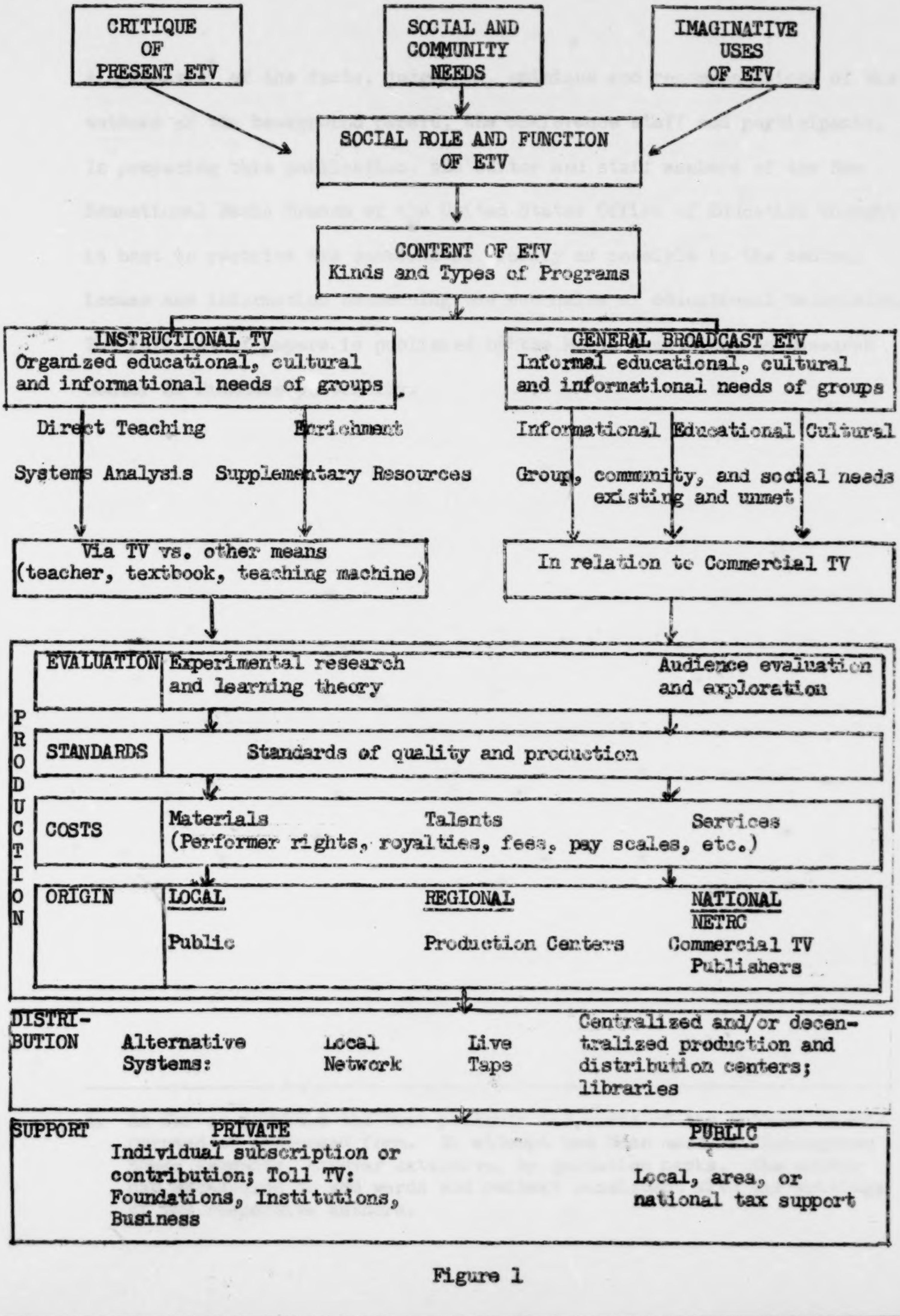
CRITIQUE OF PRESENT ETV
SOCIAL AND COMMUNITY NEEDS
IMAGINATIVE USES OF ETV
SOCIAL ROLE AND FUNCTION OF ETV
CONTENT OF ETV
Kinds and Types of Programs
INSTRUCTIONAL TV
Organized educational, cultural and informational needs of groups
GENERAL BROADCAST ETV
Informal educational, cultural and informational needs of groups
Direct Teaching
Enrichment
Systems Analysis
Supplementary Resources
Informational
Educational
Cultural
Group, community, and social needs existing and unmet
Via TV vs. other means (teacher, textbook, teaching machine)
In relation to Commercial TV
PRODUCTION
EVALUATION
Experimental research and learning theory
Audience evaluation and exploration
STANDARDS
Standards of quality and production
COSTS
Materials
Talents
Services
(Performer rights, royalties, fees, pay scales, etc.)
ORIGIN
LOCAL
Public
REGIONAL
Production Centers
NATIONAL
NETRC
Commercial TV
Publishers
DISTRIBUTION
Alternative Systems:
Local
Network
Live
Tape
Centralized and/or decentralized production and distribution centers; libraries
SUPPORT
PRIVATE
Individual subscription or contribution; Toll TV: Foundations, Institutions, Business
PUBLIC
Local, area, or national tax support

Figure 1

a synthesis[1] of the facts, judgments, opinions and recommendations of the authors of the background papers, the conference staff and participants. In preparing this publication, the editor and staff members of the New Educational Media Branch of the United States Office of Education thought it best to restrict its contents as closely as possible to the central issues and information concerning the economics of educational television. The full set of papers is published by the Morse Communication Research Center of Brandeis University.

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[1] As far as possible the text presents the words of the authors in excerpted or condensed form. No attempt has been made to distinguish these segments, however extensive, by quotation marks. The editor has endeavored to add words and context consistent with the writings of the respective authors.

Authors and Background Papers

Chester D. Babcock	Instructional Television and School Curricula
James F. Baker	Television and Teacher Education
C. R. Carpenter	Review of Research on Instructional Television
Edwin G. Cohen	Evaluation of Available Instructional Television Programs
James Day	Neglected Audiences
Keith M. Engar	Station Operation
George L. Gropper	Teaching via Television: A Behavioral View
Hartford N. Gunn, Jr. and Michael J. Ambrosino	Regional Network Operations
Eugene I. Johnson	Television and Adult Educational Needs
Anita L. Martin	Community Needs in Educational Television
Jack McBride	Teacher and Producer Rights and Royalties
Donald H. McGannon	The Complementary Roles of Educational and Commercial Television in Public Service Broadcasting
Ithiel de Sola Pool	Measuring the Audience for Educational Television
James Robertson	A National Educational Television Network of the Future
David G. Ryans	The Role of Television in an Instructional System
Robert M. Segal	Educational Television and Its Relation to Labor Unions
Robert E. Slaughter	The Publisher as a Source of Programmed Materials
Bernard B. Smith	Observations with Respect to Evening Educational Television Station Operation
M. G. Sovereign	Relative Economics of Microwave and Airborne Instructional Television Systems

Contributors of Television Programs for Projection at the Conference

American Broadcasting Company
British Broadcasting Corporation
Columbia Broadcasting System
Encyclopedia Britannica Films, Inc.
Ford Foundation
National Broadcasting Company
National Educational Television and Radio Center
New York State Department of Education
Pennsylvania Department of Public Instruction
The 21" Classroom
Wisconsin School of the Air

WGBH-TV - Boston
WBKB - Chicago
WNBQ - Chicago
KRMA-TV - Denver
WXYZ - Detroit
WUFT - Gainesville
KABC-TV - Los Angeles
KNXT - Los Angeles
WHA-TV - Madison
WTHS-TV - Miami
WCBS-TV - New York
WNBC-TV - New York
WRCV-TV - Philadelphia
WQED - Pittsburgh
KVIE - Sacramento
KMOX-TV - St. Louis
KQED - San Francisco
KCTS-TV - Seattle

CHAPTER 2

A ROLE FOR EDUCATIONAL TELEVISION

Television channel assignments are limited. Few cities are large enough to justify more than a handful of assignments. The problem of how best to allocate them and to determine the most appropriate balance of programs has been solved differently in each area. In the United States, the Federal Communications Commission regulates broadcasting. In reserving 242 channels for education in its Sixth Report and Order in 1952, the Commission established a policy whereby television would be used primarily for the sale and distribution of goods and secondarily for education. It further decided that the educational stations would have to find their support from sources other than the advertising funds of commercial firms.

Given a dominant role and ample resources, commercial broadcasters quickly provided a national service, and in so doing created a new community, a truly national society. "To the extent that one can date a social revolution, the evening of March 7, 1955, can perhaps be taken as the landmark: On that night, one out of every two Americans was watching Mary Martin perform in 'Peter Pan' before the television cameras."[1]

The nation itself realized this during the 1960 Kennedy-Nixon debates. It is probably no exaggeration to say that this first national community became temporarily a family on November 22, 1963 when nearly all simultaneously shared the grief of President Kennedy's death.

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[1] Daniel, Bell. "Modernity and Mass Society: on the Varieties of Cultural Experience." *Studies in Public Communication*, No. 4, University of Chicago Press, 1962, 4, p. 6.

Typically, however, the viewer is less conscious of such events. To him, television is a series of pictures on a television screen. He is little concerned with the mechanics or the management of TV, be it VHF, UHF, ETV or CTV. It makes little difference to him whether anybody is watching the program he likes; he is unaware of his fellow viewers. Unwittingly, however, he is a member of an audience, of many audiences, and as such he is the concern of the broadcaster.

In the following paper, Professor Lewis Coser of Brandeis University discusses the nature of our national society/audience and some of its characteristics consequent to the social changes of the past century. In his judgment, these emerging characteristics prescribe a role for educational broadcasting. He questions the idea of society being homogenized as much as culture, particularly in the mass media.

In determining that there should be ETV, the FCC did not however define its function, nor its relationship to commercial television. Should ETV be a competitive or a complementary service? Should its audience be national or local, general or special? Donald McGannon, president of Westinghouse Broadcasting Company, looks at these problems from the viewpoint of the commercial broadcaster, describing what he sees as the appropriate relationship between commercial and educational broadcasters in the area where their function is most alike: public service.

James Day, manager of San Francisco's ETV station, KQED, considers similar questions in his paper. There are points of sharp disagreement among the participants, but none on the essential question of the need for educational broadcasting in the United States.

Differentiated Society and Homogenized Culture*

by Lewis A. Coser

A somewhat paradoxical situation exists on the current American scene. The American social structure at the present time exhibits a variety and diversity of patterns and of social types never as yet seen anywhere else in the world, while, at the same time, there are certain trends pointing to increasing uniformity and homogenization of cultural offerings. In other words, while we witness today the emergence of wholly novel social types and highly differentiated and diversified publics for cultural products, these products themselves, far from becoming more diversified in their turn, are in fact becoming more standardized.

Let us consider these trends in somewhat greater detail. A fairly cursory comparison of the occupational structure of the America of today with that of say, 50 years ago reveals the amazing increase and diversity of occupations in this comparatively short span of time. In 1910, farmers and farm laborers, who were all doing similar types of work, made up roughly one-third of the total labor force. Their share now has declined to a relatively insignificant six percent. Blue-collar workers have also declined, though less drastically. In their place a wide variety of new professional and semi-professional jobs with a wide proliferation of differing status positions has come into existence.

The higher value that society now places on education, medical care, welfare services, research and recreation produces new occupations requiring higher skills so that professionals and semi-professionals make up roughly 12 percent of the total labor force today. In addition, there is the phenomenal rise of various other types of white-collar occupations and services. As a result, America shows a degree of occupational diversification never before witnessed in any civilization.

---

*L. A. Coser. Differentiated Society and Homogenized Culture. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

This differentiation implies, of course, that an ever greater number of Americans have become more and more unlike each other in regard to their work and to their positions in the occupational hierarchy. Therefore, it would stand to reason that men so unlike each other in their daily employments would develop varied cultural tastes in tune with their differing occupational stations in life and crave differentiated cultural fare. Yet we notice to the contrary that the cultural fares offered them seem to have become more uniform rather than more diversified. This paradox becomes compounded when we consider that in addition to occupational diversity we also witnessed an amazing process of occupational upgrading during the last decade.

By upgrading, following a usage introduced by Professor Talcott Parsons, I mean a process "by which the general level of competence and responsibility required for adequate occupational performance has been rising." The professional roles in particular have been the fastest growing number and have assumed a new strategic importance. In turn, the roles involved in the pure and applied sciences have multiplied, and with the growing scale and complexity of organizations, many more positions now carry responsibility and decision-making capacities that can only be learned through prolonged education. Not only at the top of the occupational hierarchy, but even in its middle we have witnessed a tremendous upgrading of educational requirements.

Educational trends. In 1928, 27 percent of a sample of business leaders had less than a high school education and only 32 percent had graduated from college. A similar sample in 1952 showed that only 4 percent had less than a high school education and that 57 percent had graduated from college. This upgrading of education is true of almost all but the lowest occupational categories. In many areas of white-collar work where, at most, a high school education was required a generation ago, the B.S. has now become a prerequisite for entrance, and while a B.S. was earlier considered an amply sufficient educational background, an M.A. or even a Ph.D. is now seen as necessary. A certain amount of snobbery and conspicuous educational consumption may well be involved here, but the major reason is clearly the increasing complexity of tasks required in our society as compared to that of 50 years ago.

The contemporary American population is the best educated the world has ever known, at least if we measure education in terms of exposure to formal educational processes. The average young adult in urban areas today has completed high school, but his parents did not go much beyond the eighth grade. Only half a century ago the bulk of the population received a relatively undifferentiated primary education, secondary and college being reserved for a narrow, elite segment, while today a very high proportion of the total population benefits from college education. College enrollment among young people 18 to 21 years old was only 4 percent in 1900 but 37 percent in 1960. In 1900 more than three out of five boys between 14 and 19 were in the working force. In 1960 less than half were in the working force, and in 1975 it is estimated that the ratio will have decreased to two out of five. The total school population in 1960 was no less than 46 million out of a population of approximately 180 million, or more than one-fourth of the total. That all means, of course, that relative uniformity on a fairly low level has now been replaced by a great deal of variety and generally a much greater educational level.

Furthermore, we must not overlook another form of educational variety--the great qualitative differences among our educational institutions. A century ago, when a college education meant, in fact, attending one of the major Eastern seaboard colleges or one of the new pioneering Midwestern schools, the educated constituted a small, but relatively homogenous category. Today there are many colleges where not only students but professors also read nothing heavier than Life and the Saturday Evening Post outside of their regular assignments or specialized subject matters; and, in contrast, in some colleges it is de rigeur to read only the most recent French anti-novel and concern oneself with the currently fashionable theater of the absurd. The head of the academic profession, to quote David Riesman, "cannot 'see' the tail end because the middle obscures its view, and the tail end moves so far behind the avant-garde turns and twists that it ordinarily fails to learn, for instance, that liberalism or anticlericalism is out of date at many leading places."

Population mobility. The variety of American educational offerings and hence the diversity of educational products in America perennially startles European observers who are used to fairly unitary and rigid educational systems that cast their students in predictably uniform molds. Nor is this diversity limited to occupation and education. Consider, for example, the geographical mobility of the American population. Those historians who, a generation ago, deplored the disappearance of the last frontier and predicted a kind of ossification of the American society after the end of the great migration west would be rather startled at the contemporary evidence. The population of Nevada increased by 54 percent in the ten years between 1950 and 1960. Arizona gained 44 percent and California 30 percent in the same short time span. At the same time, West Virginia and Arkansas lost more than 22 percent, while Florida gained nearly 60 percent. All this in ten years. In other words, whatever stable regional diversities may have existed in the past are happily declining as huge movements of migration throw together people from many regional origins, creating a variegated mixture of old-timers and newcomers living side by side and making of what once were fairly homogenous communities, multifaceted agglomerations of people with diversified backgrounds, tastes and requirements; that is, while diversity between regions is on the decline, diversity within regions is growing.

Occupational mobility has, of course, also consequences similar to geographical mobility. Although America is by no means as open a society as is sometimes claimed, there is a great deal of evidence for continued upward as well as downward mobility. Over half of the contemporary professional and business men had fathers who were in the lower occupational categories. Hence, occupational mobility within generations as well as patterns of mobility within generations points to the continued shifts and changes in the class positions of the population. One can point to two or three other sources of diversity in contemporary America.

Demographic changes. Consider, for example, certain demographic data. The demographic structure of American society contains previously unnoticed sources of increasing differentiation. In 1920 only 1 out of 20 Americans was 65 years or older. This ratio has increased now to 1 in every 11 in 1960. In other words, whereas the aged made up a relatively insignificant part of a population composed in the main of young and middle-aged, increasing life expectancies have made persons beyond the usual retirement age a very significant portion of the total population.

In ten years from 1950 to 1960, the aged population increased by nearly 35 percent, while the general population increased by only 19 percent. The very existence now of such large numbers of aged people no longer occupationally active in a society so wholly committed to an ethos of work has increased the structural heterogeneity even on this level. Given the general educational trends as reported earlier, the aged are bound to be increasingly more highly educated and hence may have cultural requirements considerably higher than those of the comparatively few aged of the past. This creates an opportunity for diversified cultural products which are by no means exploited today.

Let me now allude to yet one other source of diversity in contemporary American culture. A few generations ago the great majority of Americans were confined by their major interests to their local community. They tended to devote but little thought to the great society in which that community was imbedded. Their concern was with happenings on the local level, with local problems, and the national and international scene was virtually excluded from their angle of vision. Concern with wider issues was then confined to the relatively small number of cosmopolitan elites;

but in our day this is no longer so. Even small communities are now likely to contain both cosmopolitans and locals, to use a terminology first suggested by Professor Robert K. Merton of Columbia. If the local tends to be parochial in his concern, the cosmopolitan has begun to live on the national or even the international level. His concern transcends the world in which he is particularly involved, and hence he craves for media of communications which bring him into contact with the wider world in which he wishes to participate, even if only vicariously.

The emergence of this cosmopolitan type, of course, is tied to the fact that in our industrialized, urbanized, and increasingly mobilized society, absorption in purely local issues is for an increasing number of people a limitation no longer feasible and dysfunctional to their adjustment; but the fact is that our cultural offerings are not yet fully attuned to the differentiation between the cosmopolitans and the locals. While newspapers tend to cater mostly to locals and new magazines stress a rather generalized and fairly superficial concern with world trends, few media seem to be ready at this moment to probe in depth either the local or the cosmopolitan structure.

Changing role of women. Finally and perhaps most importantly, consider the revolutionary changes in the role of American women which have taken place in the last 50 years. Within this time span, women have moved out of the protective circle of Victorian domesticity to an ever increasing role in the life of the society outside the home. They now play an active part in politics, business, industry, education and civic affairs. Whereas females received less formal education than males only a few generations ago, now more girls complete high school than boys. In 1957, 42.6 percent of all women over 25 years of age had completed four years of high school compared with only 38.8 of all men in this same age bracket. Female college education, rare around the turn of the century, has now become commonplace. Contemporary women are not only more highly educated than their ancestors of a few generations ago, they also have a more diversified educational background.

Even more startling than the educational upgrading and diversification of life styles of modern American women is their increasing participation in occupational life. Unmarried women have participated in occupational life ever since the beginning of the Industrial Revolution. Yet such participation was usually temporary only. As the woman married, she typically moved out of the labor force. Today great numbers of women participate continuously in the labor force, even after marriage. In 1890 about 5 percent of married women were in the working force, today 38 percent of all married women between the ages of 35 and 64 are now working. The married woman of an earlier age lived in the relatively undifferentiated milieu of the home, concerned only with a predictable routine of tasks; now more than one-third of all married women are involved with the hustle and bustle of a diversified and differentiated world of occupations. As a result, the female role has become much more complicated and demanding, though perhaps also more productive of strains and tensions. America today has certainly produced a variety of female types never previously seen in human history.

Finally, consider the implications of this set of facts concerning the life cycle of the modern woman. The median age of marriage of the American woman is now around 20 years. Her last child will be born by the time she is 26, and this last child will be married before the mother has reached the age of 50. Given smaller families, earlier marriages and longer average lengths of life, couples now spend one-third of their married life with no unmarried children in the home. In 1890, by contrast, the average married couple did not survive jointly to see their last child married. These are most drastic changes not only in the whole structure of the family, but also in the diversification of woman's role.

Let me sum up what has been argued so far. As American society has become highly urbanized and industrialized in the stage of mass production and mass consumption, its social structure presents a much more variegated picture than ever before. Differentiation and upgrading in the occupational sphere, the rise in educational levels as well as the differentiation of educational offerings have created conditions for divergent life styles. The changing composition of the population, more particularly the rapid rise in the proportion of the aged, as well as geographic and social mobility, has led to the emergence of important categories of persons who diverge in their demands, attitudes and life styles. This has been most pronounced with women.

Standardized cultural products. When one now turns to the cultural products of contemporary America, he would expect that the increase in structural variability would be reflected in an increase in the variability of cultural offerings, but this is true only in a very limited sense. To be sure, a number of magazines such as Harper's, the Atlantic, the New Yorker, Esquire, Commentary and the Reporter have been quite successful in catering to somewhat differentiated audiences. Little theaters have sprung up in New York off Broadway and in a number of other cities. Experimental movies have been made by independent producers on limited budgets and have been enthusiastically received by specialized audiences. Quality paperbacks now cater to a variety of diversified audiences. Yet the impression remains that these and similar developments are fairly marginal. The little theaters are limited to a few cities. Quality paperbacks tend to concentrate on the masters of the past rather than on new experimental writers. The major vanguard of cultural-critical magazines such as Partisan, Kenyon, Hudson, Sewanee, Dissent, Art News and The American Scholar have a combined circulation of scarcely more than 100,000 subscribers and given the obvious overlapping of subscribers, these magazines reach only a fraction of this number mainly because they are barred from the regular commercial channels of distribution and do not attract advertisers. But the problem becomes most acute when we consider television.

Commercial television today offers a highly standardized and uniform fare. Given the economic structure of the industry, it must of necessity concentrate upon reaching the widest possible market for its products, since advertisers are mainly interested in national rather than local markets.

Prime viewing time is monopolized by the mass-produced network program, while diversified audiences and their needs are all but ignored. In other words, commercial television must tie itself to what it considers the needs of many rather than those of the few. It must attempt to search out those areas in which the viewing public is as like as possible. It is hence hard to conceive how commercial television, despite commendable but rare efforts, can afford to cater to varieties of minority tastes which have arisen or have been crystallized by the increasing structural variety which I have sketched. This is so despite the fact that differentiated and diversified potential audiences have arisen which, if added up, represent a very considerable number of viewers. The reason for this is obvious.

These different potential audiences cannot be added up because they differ widely from one another. The cultural needs of, say, the educated aged cannot simply be added to the cultural needs of middle-aged housewives. Hence the commercial networks are constrained to concentrate on those levels where the aged and the housewives have similar tastes; that is, they must cater only to those demands which are spread relatively uniformly throughout the population and must neglect the distinct needs of special groups within the population. It is at this point that the task of educational television becomes crucial.

Educational television's task. Only educational television can hope to cater to specialized needs and non-uniform demands. Educational television might thus be able to overcome the homogenized cultural offerings that contrast so very drastically with the diversified patterns of our contemporary social structure. Consider the growing number of college graduates. To be sure they, like everybody else, relish certain of the offerings of the commercial networks. Yet none of these can afford to cater to them as college graduates; that is, as a specialized public with tastes and values differentiated from that of the rest of the population. Graduates have been trained during their college years to develop their sensitivity, their tastes, as well as their intellect beyond the point attainable without such an education. Yet the offerings of the commercial channels must, for good and sufficient reasons, ignore these demands.

Here educational television can fill the gap by offering them programs which are more directly in tune with their requirements. Educational television, in other words, might allow college graduates to continue the cultivation of tastes first initiated during their college years. Today the education of those who went to college is too often discontinued after a relatively short period of high cultural involvement which is followed by absorption in the mass or midculture, thus leading to atrophy or at least to the decline of earlier cultural sensitivities. This is not to suggest that educational television should simply provide a continuation of college education. Rather, it could offer a kind of fare which would allow the college educated to continue fulfilling those cultural aspirations first implanted in them during the college years.

There are other examples. One of the effects of the rapid occupational upgrading and technological change is the fact that technological or scientific skills learned in schools are likely to become rapidly obsolescent for those professional scientists and technologists who are now employed in business and industry or who have become self-employed. There is, however a great need for keeping up with new developments in these sciences and in the professions.

Here again, educational television could fulfill a very major task by offering a kind of continuous refresher course for the technological and professional elites. Such courses would be, of course, valuable only to minorities; but to these they could become most profitable indeed. Or consider the situation of the aged. Being removed from the care of children as well as from occupational involvement, being removed also from much of the social life of younger people which is so closely meshed with occupational life, they are likely to develop quite specialized cultural needs, needs which cannot be fulfilled by the mass media geared to a younger audience. They require programs that tie them to the world of younger Americans, that explain and elucidate modern trends in the arts or sciences. The older members of a society, being the bearers of the traditions of the past, are at present in danger of losing a living connection with contemporary trends.

Here educational television might render a great service in the reopening of a continued dialogue between the generations and so tieing the growing number of aged into the living fabric of contemporary society. If the aged are not to become a kind of pariah minority, shut off from the young, alienated and insulated from the major culture, they must be provided with alternative cultural styles in tune with their own conditions. Appropriate programs in catering to their unique demands can help to make them into active members of a common culture. This is a crucial role which educational television could play.

Or consider the cultural situation of modern women. With more time on their hands, with a higher level of education and easier household chores, modern women have become voracious and often somewhat indiscriminating consumers of culture. They provide, of course, the widest market for various forms of mass or midculture.

Behind all this cultural hustle and bustle is an overwhelming lack of a deep sense of structure, especially for college-educated women. They too often feel that such activities are but cultural aspirins that slow the pain that stems from a lack of genuine cultural engagement. Here again the fact is that general commercial offerings are not sufficiently geared to the specific demands of diverseness in any audience.

In effect this is a plea for greater diversity in our culture and an attempt to show the opportunities educational television has to increase this diversity. Potential audiences exist which have so far been neglected or given insufficient attention by those who have the responsibility of providing our cultural offerings. This task will always demand men and women who are willing to grasp the opportunities presented to them. I am convinced that if these opportunities are fully realized and exploited, educational television will be able to make an invaluable contribution to the evolution of diversified and many-faceted program needs in the common culture of America. It is my feeling that educational television needs to develop the sensitivity and the courage to deal with specialized audiences, which are now submerged, by catering to the requirements of many small publics which, if you merge them, are almost as large as the Big Audience. Educational television will then be able to contribute its heart to the continuing and never-ending task of making America as rich in the texture of its culture as it is already in the texture of its technology.

The Complementary Roles of Educational and Commercial Television in Public Service Broadcasting*

by Donald H. McGannon

I believe educational television is an indispensable element of our broadcasting system in America. It must in the future become a necessary element of our educational system in general. I fear, however, that the birth, infancy and childhood of ETV has to be something like that of an unwanted child. In its very conception, strong and militant efforts had to be made to have it included in the Sixth Report and Order of the FCC. When included, the facilities assigned were too often in the UHF portion of the spectrum even where sufficient VHF frequencies were available. This was so even in communities such as New York and Los Angeles--prime markets of the country with vast needs and vast resources in the educational field.

In the years that have followed, this new medium of education has been passed around among the various members of the community--educators, legislators, opinion leaders--without finding a real home. Its sustenance has been secured from the kindly understanding of a few individual, corporate and foundation benefactors. Public support, including that of intellectuals, has been minimal and disappointing. At best it has been a starvation existence.

It is consequently difficult to make any complete assessment of American educational television because I believe it has not had the full measure of opportunity for development and growth, nor have the great economic, creative or academic talents of this country been applied to its purpose. This statement sounds sweeping but I believe it is sufficiently valid despite ETV's moments of accomplishment.

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*D. H. McGannon. The Complementary Roles of Educational and Commercial Television in Public Service Broadcasting. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

A "public service" program is one that presents an educational, religious, cultural, informational subject in an entertaining manner. It is to be distinguished from the "entertainment program" which seeks as its basic goal the entertainment of the audience.

It is a rare instance, if indeed it ever exists, in which public service programs have the popular appeal of entertainment programs. Consequently they bear an unattractive image--one that often results in tune-out because of the form of introduction or the newspaper listing. For additional reasons, however, public service programs do not fare well. These reasons are low budget, unfortunate competitive positioning on the schedule, lack of creative staff, but most of all because they do not possess the caliber of showmanship found in entertainment programs, consistent of course, with the content. Because of the nature of our society, we are, in effect, competing for the attention of the potential audience. We compete not only with other programs but also with activities such as bowling, and outdoor cooking, the mobility of our people, and the hundreds of other diversions available today. The audience is more perceptive and discriminating, and will not stay tuned to a program, no matter how noble or uplifting, if it lacks some of the showmanship to which they are accustomed. This is a condition precedent and, even if fulfilled, will not assure complete or larger audience response. This will take time but progress is being made.

The strides made in the past two years have been noteworthy. "CBS Reports," "NBC White Paper," "20th Century," the Bell and Howell series, expanded news, editorialization and many other significant local and network programs are approaching or, in some instances, have already achieved the level of appeal, quality and showmanship needed. The networks and other broadcasters are to be commended for their accomplishments, especially those of recent date.

However, much more needs to be done and in considering the effective relationship between commercial and educational television this is a most appropriate occasion for a re-assessment of the situation.

Lack of definition of goals. In his recent book, "The Television Dilemma," Yale Roe[2] makes the following observation:

> It would seem that the problem is that educational television has not defined its goals. If research suggests that the person with the highest intellectual pursuits and the highest education is likely to be a viewer of ETV, is not the television time wasted in programming about shorthand and skin diving? Or is this for someone else, the viewer whom the survey has not uncovered? Clearly it is, for it is the general philosophy of educational broadcasters that they should have something for everyone. One might answer, as Fred Allen did to the statement that the show must go on, "Why?" The educators' answer is "the library theory." This is the analogy that the programs are like books, and that anyone in the community can come in and learn from whatever program he likes. On the one hand, the library argument seems quite reasonable, offering something for everyone. Unfortunately, however, it also offers something to the educational broadcasters themselves, and that is an excuse for every program that is on the air. If the quality or the content is questionable, it can always be defended on the premise that a good library should have all types of books and that certainly someone out there must like it. The library argument precludes a frame of reference within which the merits of program series might be judged.

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[2] Y. Roe. The Television Dilemma, New York: Hastings House, 1962, p. 98.

> It is difficult for any man or any institution to be all things to all people, and in the case of educational television stations it might be reasonable to be just a few things and try to do that well than to try to do everything hapharzardly. For example, a station might decide to program in different time segments to several different specific groups such as children, foreign-born members of the community, and the opinion leaders of the area. Or it might concentrate on the arts for viewers interested in culture, and then on fundamental education for the citizens who have only a grammar-school education. The possible combinations are many; the point, however, is that in any combination the goals of the television station would be defined so that all effort could be concentrated toward effecting these goals. In time, of course, the combinations and the subsequent goals could be changed. But at any given time the task of the station would be clearly defined. All planning and effort would be clearly directed. This is much different, however, from the library theory that results in the programming of everything from Shakespeare to bridge. The sad result of the latter is that the station becomes everything to everybody and nothing to anybody, and therefore fails to establish a recognizable role in the community.
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> Once a station sets its direction, it should bring to bear all of the forces that will make it desirable to watch. First of all, it should seek to make the education that is communicated as interesting as possible. We all remember the inspiration and education imparted by teachers who were stimulating; we recall in sharp contrast the tedious ordeal of enduring dull mentors. The same element that was the secret of the former, call it showmanship of effective communication, is necessary for successful educational programming. The captive audience of the classroom is not a luxury of the educational television station. It is not enough simply to transmit a televised message of educational content. That message must be communicated by persons and with production methods most able to compel attention, elicit interest, and stimulate response. In this manner will the station be most able to fulfill its assigned task -- to educate.

Definition of goals is necessary not only for educational television stations but also for the commercial operations. In both areas, there has been a shortage and this may explain the apparent waylessness.

Speaking as a commercial broadcaster, it is my conviction that we must by philosophy and statute present a significant schedule of public service programs. Hopefully, we will lead those who view and

and listen, and utilize the size of our audience as the vehicle for presenting subjects that are new, controversial and important.

I do not believe an atmosphere of competition should exist between these two fields of broadcasting. While we compete avidly in the commercial field, the potential public good to be accrued in the educational field does not lend itself to such competition. The commercial and educational systems should complement, and in some measure supplement each other. Each should do that which he can do best because of the intrinsic nature of the subject, the cost of the program, or the availability of time. I believe the most desirable relationship necessitates a "daily" working liaison, reviewing plans and ideas, offering suggestions, assistance or advice relative to the individual efforts and how they can be better dovetailed.

Liaison between educational and commercial television. Extending this line of thought, let me go through a list of potential and desirable areas which I would like to suggest to the broadcasters of our country as a means of effectuating a higher level of production relationship.

a) Without any reflection on the capabilities of any individual engineer, I believe that commercial stations and their staffs (especially in the case of multiple owners) are exposed to very extensive engineering, technical and construction experiences. In addition, many conduct important research and development programs. I can see no reason why the benefit and value of such activities could not be made available to educational stations in the form of a running consultation.

b) In like measure, but with even greater focus and direct effect, the above concept could and should be extended in the area of programming, its ideas, development and use.

c) Manpower continues to be of prime concern to the industry. There have been few in any major educational sources developed. Educational television represents a crucible in which programming and supporting personnel can be trained and developed. In addition, I believe if this processing of people could be established, it would then be the basis of attracting men to educational television in the first instance. It occurs to me that such a basis would be of significant importance in order to offset the competitive appeal for people by commercial broadcasters.

Similarly, values could be captured by commercial programmers if this approach to people could become mutual in its commercial operation. Until the recent past, opportunities for programming personnel to do much creating was sorely limited due to the wide use of film and ever-expanding network schedules.

d) As commercial broadcasters contract for a film product, it can often be arranged to also secure rights for the local educational television station to exhibit the same product, when appropriate.

e) It also occurs to me that it would be feasible and desirable to secure rights for exhibiting a particular program on the ETV station as an additional condition when the commercial broadcaster is negotiating and securing the rights for his station. The generally small audience of the educational stations does not represent serious dilution of the particular property or over-exposure in the case of talent. Hence the required consent is practically achievable, especially when the talent or owner of rights recognizes that the concession is on behalf of a worthwhile public cause. WBC was able to do this (with some additional consideration) in the case of the Encyclopaedia Britannica films for the ETV stations in our communities in this and the foregoing situation.

f) WBC is currently in "partnership" with National Educational Television and three foreign countries to produce a series of documentaries entitled "Intertel." It seems timely in our development to undertake an exploration of a possible similar relation on the local level. This would be the production of local public affairs programs in increased quantity because of opportunity to exhibit on both the commercial and the educational stations and perhaps some concomitant easing of facilities and budgets.

g) It is always regrettable that the audience cannot see a given program a second time or, having missed the first performance, have another opportunity to see the program for the first time. Necessary competition does not permit this to be done very often in the case of entertainment programs, especially in prime time. However, subject to schedule consistency and appropriateness, isn't there a needed area for mutual exchange of public service programs between the commercial and educational stations? This would afford maximum exposure to different and non-duplicated audiences. It must be acknowledged that the end of all broadcasters' efforts must be to reach people in the largest numbers achievable. Mr. Roe in his earlier-mentioned work notes:

> But one may ask, why shouldn't the size of the audience be a matter of consequence? There is nothing distasteful about trying to reach the greatest number of viewers -- about trying to educate the greatest number of persons. True, an educational station would not want to do so at the expense of the quality of its programs. But nevertheless, once the quality is established should not the goal be maximum exposure?[3]

I am seeking in this suggestion a certain innovation in the approach at the local level to find an enlightened way to secure this maximum exposure. Here is no place for false pride, since this will obviously block any possibility of free and open exchange. The commercial broadcaster is recognized as being seriously hampered by his schedule and competitive situation. Acknowledging this, however, I still believe this is a significant area for consideration.

h) The development of the library resources in the video field is an area that has been neglected to date. Substantial amounts of material with strong historical value have been destroyed and lost forever. In my opinion, tomorrow's teaching of history and other subjects will be significantly facilitated by the use of audio and video materials. This does not apply to just the national scene but also the local and regional areas. The material is on hand in the form of tapes (video and audio), film, still shots, etc. The basic task is to find efficient methods of collecting, cataloging and storing this material. The industry needs such a "morgue"; it will be a reference center for educational groups; and isn't the local educational station the logical entity to handle such a task? Again, it will require some enlightened planning and provisions for defraying expense and donating of appropriate film and tapes. I believe it can be a rewarding undertaking.

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[3] Ibid., p. 96.

These represent but a few of the potential areas of such relationship. There are more, such as cross-plugging of public affairs programming, cooperative journalistic efforts, etc. Not all of them will work, but exploring their feasibility with the right perspective will be an enriching experience for the broadcasters and the public.

Neglected Audiences*

by James Day

The appropriate goal for ETV. Broadcasting in America, as with many of our social institutions, "just happened." No one sat down to determine how this electronic innovation could be harnessed to serve man's basic needs. If any thought was given to the purposes of broadcasting, it was not evident in the rush of the early Fifties to put pictures-that-moved into every American living room. And "movement" seemed then, as it does now, to be the principal desideratum.

The birth of "educational television" was hardly more distinguished. A handful of men recognized, as they watched the available channels flow swiftly into the hands of the merchants, the necessity to preserve a part of this resource for the "needs of education." Their initial act was to secure a sufficient number of channels; the specific purposes would be determined later. Even today these purposes are being sought as a blind man seeks the exit from a room. Educational television as it exists today is best defined as the totality of its multiple and manifold applications.

The experience of British broadcasting provides a sharp contrast to the American policy of empiricism. Periodic assessments have been made of the instrumentality of broadcast communications in Great Britain to see if it is measuring up to its potential for public good. The most recent of these studies was published last year as the Report of the Committee on Broadcasting, 1960--more familiarly, the Pilkington

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*J. Day. Neglected Audiences. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

Report. A "blue-ribbon committee, appointed by the Government, undertook not only to examine the performance of the BBC and the commercial ITV, but set itself the task of determining the purposes of broadcasting. A summary of these purposes, it seems to me, provides an adequate prescription for a national educational television service in America:

> The background to our thinking was the realization that broadcasting will have profound and far-reaching effects; the working assumption must be that television in particular will be a potent factor in influencing the values and moral standards of our society. The burden of responsibility that this places upon those to whom the services are entrusted is heavy...It is essential to the discharge of this duty that there should be presented, for listeners and viewers to choose from, the widest possible range of subject matter, treating as much as possible of the whole scope and variety of human awareness and experience. To do so, the broadcasters must not only reflect society; they must pick out and focus attention on that which is significant--the best, because it is the best, the worst, so that we shall know it for what it is; the new and the challenging, because individual listeners and viewers should not be denied the opportunity of responding to them, and of judging them. At the same time, the broadcasters must care about public tastes and attitudes in all their variety in all kinds of programmes--in those designed to amuse and relax no less in those that are demanding; they must keep aware of them as they are and of their capacity to change and develop.[4]

Educational television has its present roots in a reaction to commercial television's failure to fulfill the promises of broadcasting. ETV has generally been put forward in negative terms; "non-commercial television," and "alternative" service, the "fourth network," etc. This is wrong. The purposes of educational television should not be to serve as a counterpoise to commercial television. The purposes of educational television are to provide this country with a television service that lives up to the potentials inherent in the medium to serve the urgent and disparate needs of the years ahead. In this sense, it is THE national television service; the hawkings of the merchants (despite their occasional and welcome displays of public service) are as secondary to the basic needs of America as are the billboards to the American landscape.

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[4] Report of the Committee on Broadcasting, 1960. London: Her Majesty's Stationery Office, 1962.

Any speculation upon the needs of America--and of the world--ten years hence must develop out of two very large and risky assumptions; one, that within ten years the world may be fundamentally different from what we now think it to be; and, two, that the responsibilities and the traditions inherent in today's mass communications industry will have changed as much as the world itself. There is nothing new that need be added to the great volume of words about the rate of scientific and technological change in the industrialized West. We have solved the problem of food-for-survival and have developed the problem of social and political imagination for survival. It's obvious that as we grow bigger, move faster, and become more crowded together that more and more planning and new thinking on a broad social and political scale will be required. A corollary to this is more information, more accurate means of prediction, and more effective implementation of the policy-to-action cycle. There are some far out thinkers, such as Norbert Weiner, who have raised the question whether man has outlived his capacity to adapt to his rapidly changing environment. The question is at once social, political, ethical, and very personal.

One of man's proudest social achievements, the institution of self-government, is threatened. Robert Maynard Hutchins recently observed that "the American educational system and the American media of communications, far from assisting to give us an effective democracy, are among the most important factors making our democracy ineffective and, it may be, ultimately hopeless."[5] At the heart of these questions is the matter of effective communication, communication which puts man in touch with reality and assists him to seek moral and ethical goals consistent with his changing environment. It is woefully apparent that such a system of communications can be found neither in a state-operated nor a profit-motivated system, if only because they cannot permit the questioning of those values and institutions upon which they themselves are firmly anchored. The answer lies in a free and independent institution, as strong as its purposes. The seeds for such an institution are present in educational television. The nurturing and strengthening of this institution may well be more important to our survival than a base on the moon.

Independence from financial overlordship. When the Federal Communications Commission gave substance to the hope of educators for a system of television dedicated to their interests and needs by setting aside a parcel of television channels, it did so with a statement of purpose that was understandably broad. In the order reserving channels for education the FCC stated:

> The public interest will clearly be served if these stations are used to contribute significantly to the educational process of the nation. The type of programs which have been broadcast by educational organizations, and those which the record indicates can and would be televised by educators, will provide a valuable complement to commercial programming.[6]

The Rules and Regulations of the Commission, designed to implement the foregoing order, are of no more help to one who seeks a clear and definable role for educational broadcasting within the context of official documents.

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[5] R. M. Hutchins. The Political Animal. Santa Barbara, Calif.: Center for the Study of Democratic Institutions, 1962.

[6] Sixth Report and Order, Federal Communications Commission. Washington, April 14, 1952.

Paragraph 3.621 of the Commission's Rules and Regulations states that:

> Non-commercial educational television broadcast stations may transmit educational, cultural and entertainment programs, and programs designed for use by school systems in connection with regular school courses, as well as routine and administrative material pertaining thereto.[7]

The Commission's rules are broadly permissive as to what an educational television station may do; they are specific only with respect to what it cannot do (accept advertising) and who may be permitted to operate an educational station.

The control of these educational stations by governmental and semi-governmental bodies tends to overlay their programming with a restraint and caution that stems from the nature of the institutions themselves. It is unlikely that many of these stations would risk the disapproval of their institution and thus jeopardize their support by airing delicate and highly controversial issues. In most situations the control is indirect and subtle: the fear of the shadow of the institution. In a few cases it is direct and specific. For example, certain of the existing educational television stations are prohibited by the charter of their parent institution from discussing ballot issues or granting appearances to political candidates, this despite the fact that their license from the Federal Government directs them to operate "in the public interest, convenience and necessity." A few of the educational stations have been reluctant to engage in this form of public service broadcasting for fear of losing their tax-exempt status with the Treasury Department.

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7. Rules and Regulations, Federal Communications Commission. Washington, Volume III, 1961.

If "institutional stations tend toward caution because of the sources of their financial support, the "community" stations lean in the opposite direction for precisely the same reason. Dependent as they are upon some form of voluntary support from their audiences, their programming is necessarily concerned with eliciting a tangible response from those audiences. In this regard it might be said that "controversy is good business." Because they must attract and hold relatively large audiences, the community stations tend to interpret the charge of "educational programming" rather broadly. Most importantly, community stations are forced to recognize the need to create an aura of excitement about their programs--through diversity, controversy and sheer excellence of performance and production--in order to survive. The fact that the three stations with the highest per capita audiences--Pittsburgh, San Francisco and Boston--are community stations would seem to bear witness to the result which stems from this need.

It would be inaccurate and unwise to interpret as rules these observations on the differences between types of stations. A cursory survey of the programs of the existing educational television stations would reveal notable inconsistencies in these patterns. They are cited only to emphasize that the sources of financing affect that character of programming educational stations.

A National television service. Aside from the obvious fact that all educational television stations function under the same rules and regulations of the Commission, these stations have only one thing in common: most of them subscribe to the program service of National Educational Telvision.

The NET program service currently (1963) consists of ten hours weekly, distributed by videotape and kinescopic recording through the mails, a portion of which is made up of repeats of earlier programs. Each affiliated station has the option of using whatever portion of this service it wishes, an option which is generally exercised in practice. In spite of the fact that the NET program service is designed in consultation with the affiliated stations, it does not satisfy all the divergent demands which these stations make upon it. A few stations demand a "library service" to be drawn upon at will to fill those program needs not filled by the local station at any given moment. Other stations wish only the "prestige" programs of the sort they are incapable of producing in their own studios. Some stations complain of the high level of sophistication of the programs. Others desire fewer programs of higher quality.

It is my contention that a national educational television program service should not be entirely responsive to the divergent demands of affiliated stations. A national service must be designed with a national purpose in mind. The foundation for that purpose lies in a delineation of the audience or audiences toward which the national program service is aimed. It is important that we examine the basis on which the target audience is determined.

Effective communication exists only where there is both transmission and reception. It is futile to talk of the values of communication where there is no receptivity for the message communicated. In this country there is a growing number of individuals who are already receptive--even hungry--for the kind of communication we are speaking of. They are not the mandarins to whom television is the curse of mankind, but that vast bulk of individuals--perhaps more than a quarter of our population--who are intellectually curious and who individually provide the motivation and means for social change. This is the primary target toward which National Educational Television should direct its programs.

It is central to this thesis of a "selective and limited target" that the target group is a constantly expanding group. Its growth is partially the consequence of the increasing proportion of our population which is college educated. Its growth, however, is hastened by the increasing disillusionment with the goals of a materialistic society during a period of a rapidly rising standard of living--in the man who fails to find his anticipated fulfillment in a second automobile, membership in the country club, or one of a million temporary "goals" that seem real to those who haven't achieved them. This is a man in search of more solid answers.

Evidence can be marshalled to predict a probable growth of significant proportions in this segment of our population over the next decade. In America, one could point to the diminishing proportion of fiction to "idea" articles in our national magazines--in an age when reality is more fanciful than fiction. In Great Britain, where there has been a history of purposeful radio and television communications, the competition of entertainment-oriented commercial television has succeeded in drawing away only 55% of the BBC television audience in rating numbers, and less than that when measured by stated preferences of the audience.

In connection with this thesis, the reader is exhorted to examine the BBC concept of "intensity" of viewing as compared with the "quantity" of viewing. Richard Hoggart has expressed this concept by asking whether "it is axiomatic that 12,000,000 people watching for an hour with mild mutual acceptance feel more happiness than the same 12,000,000 people after they have divided themselves into two groups of 6,000,000 each watching for half an hour with a great deal of interest?" The concept of intensity of viewing grows out of need to approach the audience as individuals and not as an undifferentiated mass. And while it would seem incumbent upon NET to strive to serve a wide range of individual tastes and needs, to cut away constantly at the edges of the target audience and thus increase its numbers, it would be folly to assume that it should direct its programs to every television set owner in the nation under the delusion that it is providing "equal educational opportunity to all."

This is not to say that educational television (in its many forms) should not serve this latter goal, it is only to say that a national educational television service can best serve its purposes by limiting its target audience to those who are already receptive. The bridge between those individuals who are now receptive, and those who must be made ready (the people to whom television is merely an undemanding means of filling the void between work and sleep), must be built by local and regional broadcasting which can reduce the substance of abstract ideas to a level of tangibility that is more easily perceived and felt by those whose world is bounded by the limits of their own experience.

Before considering some of the specifics to be desired in a national program service it would be well to note a few of the general qualities one hopes it would possess. The first of these is balance. Since it is aimed at the individual and not at the mass, it must be designed to satisfy a wide range of individual interests and tastes, yet it must avoid the pitfall of parochialism implicit in the "library concept" of educational television. The local educational station can justify reaching a range of fairly small minority audiences by judicious use of its schedule time; the national service must be aware that its programs will normally be seen during the prime hours of viewing and the extent of "individualization" of these programs must be modified accordingly.

Balance implies that the service must treat with the frothy as well as the profound, but both kinds of programs must be approached with an integrity that avoids trivialization of the type that is characteristic of most entertainment programs on commercial television.

Despite the burden of the title National Educational Television, the service must seek to be educative rather than educational. Its purpose is to enrich and enliven the mind and spirit of man. It is sufficient unto this purpose to permit the creative artistry of man to be enjoyed without justifying each performance with a pedantic explanation or analysis in the name of "education."

Now to the specifics, such as they are, of the program service itself.

There is great cause to place primary emphasis upon public affairs programming in any prescription for a national service. Americans may be the most informed people on earth, but they are certainly not the best informed. There is less need for a national program service to tell us what is happening to us--news pours forth from our media twenty-four hours a day--and more need to put this information into an historical and ethical context, to assess the subtle changes in our ethical and moral approach to new problems, to raise questions about the assumptions upon which our reactions to these problems are predicted, etc. This presumes a continuing critical commentary upon events by our most perceptive minds--not necessarily in ponderous lectures or flatulant roundtable discussions, nor in sporadic interviews and conversations with "leading citizens," but in a systematic and continuing commentary upon events. To do this effectively, NET must develop its own stable of identifiable personalities--its counterparts to the Huntleys, Sevareids, and Lippmanns of the other media. One of the principal characteristics of NET programming today is its impersonality; there are no established human beings with whom the viewer can identify except those transient figures who melt into limbo at about the point where the viewer begins to become acquainted with them. This is not to suggest that NET attempt to recruit television personalities from other media to make solemn pronouncements upon the news, but rather that it recruit to its services a handful of the keenest observers and analysts in our culture and develop them--through loving care and exposure--into identifiable television personalities.

Critical comment by keen minds is only one aspect of the presentation of the events of our day. Documentaries, of the nature and quality of "Internel," can make a major contribution to the understanding of the world in which we live. Cooperation with foreign television systems, as with "Internel," affords a fruitful and effective arrangement. But it is not inconceivable, in fact it is highly desirable, that NET organize and support its own documentary film teams to deal with domestic issues as well as contribute its part to the production of internationally-oriented television documents. Such a documentary unit can make a major contribution to the cause of understanding and enlightenment by treating those issues commercial television delicately avoids for economic reasons, or is unaware of because of a generally superficial approach to many of the problems of our day.[8]

Public affairs, as a genre, should not be limited to the chronicling and analyses of public events. It should be equally concerned with the individual (as distinguished from the public) and the jungle of fears, convictions, half-truths, pressures and myths which constitute the mix out of which his decisions are formed. The program orientation should be toward the individual and his problem of adjustment to a changing environment, not toward the academic disciplines that together are researching these problems. A man seeking answers may avoid a program on psychology while he might be attracted to a program on the changing attitudes toward sex.

Finally, in thinking about public affairs, we must remind ourselves that the single most dominant characteristic of television is its ability to make each of us participants in the events of our day--its immediacy. Commercial television has distinguished itself for its coverage of some of those events. But between the launching of a space capsule and the annual spectacle of a Miss America Pageant there is a whole range of events to be televised to the benefit and enrichment of a national audience: the meetings of the United Nations Security Council and General Assembly, critical hearings of Congressional committees, major national symposia, addresses by distinguished persons, etc. Coverage of these events must be live, or delayed on a minimal basis, thus creating the necessity of a live interconnected network of key stations. There seems no hope that commercial television can ever afford sufficient program time to cover these events adequately; a national educational service could make of television a more significant and useful instrument of communications by so organizing itself to provide this coverage to its affiliated stations.

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[8] See "Television: America's Timid Giant" by Edith Estrow in TV Guide, May 18, 1963.

Of the remainder of the NET program service there is less to say. It would seem obvious that a service oriented as we have suggested would equip itself to bring to its stations coverage (on a live or delayed basis) of the major national cultural events: concerts, operas, art exhibits, etc. It would continue to acquire the best of the dramatic programs abroad while mounting its own performances of classic and modern dramatic works at home, helping to preserve a withering tradition of live theater in television. It would continue to provide a daily children's program service--but one enlisting the best talents in the country with imaginative and entertaining production values which would not announce to its young viewers, "this is good for you." And it would provide a natural home for those highly skilled practitioners of the television arts who are growing cynical and despondent over the commercial pressures in established television, affording these artists an opportunity to vitalize the moribund medium with experimentation and fresh approaches--even at the cost of occasional mistakes, for without mistakes there are no discoveries. In this connection it is worthy of note that the program "Open End" has proved more popular than any NET series in those cities where it is run on an ETV station.

Local programming for the neglected audiences. We have dwelt at some length upon the nature of the national program service because in most instances it will be the single most important ingredient in a station's program schedule. We turn now to a consideration of the program service produced by the station itself. In so doing we note that with several important exceptions (e.g. Los Angeles and Cleveland) many if not most of the stations coming on the air in the next several years will be located in small communities with severely limited programming resources. These stations will have to be assisted in their programming by regional and state network arrangements which provide a portion of their program schedules from a central source or sources within the area. A trend in this direction is already evident, and it is destined to grow in the years immediately ahead.

It is incumbent upon any television station to assess the nature of the needs of the community it serves. Educational television is no exception. If the educational station operates in a predominantly rural community, it will take this into account in the architecture of its program schedule. If the general level of sophistication of the community is low, the educational station's programming must reflect this reality. But, withal, the educational station must constantly bear in mind that it is programming for individual not mass tastes. If most of its programs are directed at a low level of sophistication, some of its programs should be directed at a high level of sophistication--not only to satisfy the minority within the larger group that deserves to be served in this manner, but also to provide the majority an initiation into this "higher" group with a foretaste of what lies ahead. Commercial television traditionally takes people where they are and keeps them there. Educational television must take people where they are and help them to arrive at where they might be.

The most frequent criticism leveled against educational television is the charge that it is "educating the educated." Those who make this charge, insisting that educational television should devote its energies solely to educating "those who need it most," overlook one of the essential ingredients in the learning process: the presence of motivation. It is futile to broadcast educational programs for the uneducated if the uneducated have no desire to learn. Once the individual is beyond the years of compulsory education his motivation to learn, if it is present at all, is usually based in a narrow self-interest: will it help me to get a job or command a higher salary? If educational television is to reach these people it must appeal to this self-interest--literary for the illiterate, English for the foreign born, management principles for the small businessman, shorthand lessons for the clerk, etc. This is an important opportunity and responsibility for educational television, but it cannot constitute the only, nor the primary, objective for the station. The highly-motivated deserve to be served as well, and, in the main, will make up the larger portion of the station's audience.

An appeal to the less-motivated through specialized programs to serve their self-interest is a legitimate and effective means of bringing new supplicants to the altar of learning. But a measure of its justification lies in the yet unproven theory that once brought to the altar they will remain to enjoy the abundant joys of learning, forsaking their narrow self-interest for the greater excitement of discovery which is the reward of a curious mind. It is a beguiling supposition that keeps the gleam of hope alive in many a program manager's eye. Unfortunately, the meager evidence at hand would seem to deny the validity of the theory, without denying the essential value of providing educational programs for this audience, or more accurately, audiences, since in the aggregate these viewers of low-motivation make up the bulk of the audience for commercial television. It is important to note that their division into a series of "minority" audiences for educational television is based upon the nature of their motivations, not upon ethnic, economic, social or sexual distinction. To the extent that they are "neglected" audiences, their neglect is centered in their size, not in their kind. There is no "neglected" negro audience in television, there are only neglected audiences desiring to learn Spanish, hear first rate concert music, experience the working of keen minds, etc. It is because of the size of these audiences that they are not, and will not, be served by commercial television.

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An educational television station has another responsibility to its audiences, that of providing an explanation of the issues of our day in a context which has tangible meaning to the average adult. The national networks--both commercial and educational--normally provide a steady flow of programs treating the cosmic problems besetting us on the national and international scene. And yet, because of the complexity of these issues, the average viewer is inclined to dismiss the programs with a shrug, concluding that the solution to the problems lies beyond his capacity or the capacity of any individual. His increasing tendency to delegate the solution of these problems to "specialists" creates one of the major threats to self-government.

The responsible educational television station will recognize its obligations to confront viewers with local and regional issues, issues which are tangible and real to his daily life, issues which can obviously be affected by his action or inaction, and to induce him to participate in the search for their solutions. This responsibility falls upon the educational station largely by default; the typical local commercial station has little enough time and less inclination to treat local problems with an intensity and depth that presses for their solution. Given skill and courage, the educational station can do much to restore to the individual his confidence in the efficacy of individual action in the solution of our collective problems, whether international or local.

Beyond its responsibilities to the individual viewer, the educational television station has a responsibility to its educational and cultural allies in the community. In its efforts to satisfy those viewers who wish to improve their lot, the educational station would do well to link arms with the institutions in the community that are seeking the same objectives through other media--the museums, libraries, colleges, adult study groups, etc. Television can reinforce their efforts, oftentimes opening them to wider use. In so doing, however, the educational station must seek to be an institution in its own right and not simply a purveyor of information for others. This implies a responsibility for the proper adaptation of materials to television and a thoroughly professional approach to the medium, acknowledging both its potentials and its limitations. It also implies an obligation to give wider identity and visibility to the creative artists and thinkers in our midst, including those who are established and those who shall take their place in the years ahead.

We have attempted to lay down several general propositions for determining the goals of an educational television station. It would be

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well to examine how one educational television station has translated these goals into programs. In citing the programs of KQED (San Francisco) we do so in the knowledge that they are generally representative of most educational television stations, and particularly those stations like KQED which are supported by their audiences. The divisions are arbitrary and have been selected to circumscribe the broad areas referred to in the context of this paper.

Adult Education (skills): Program series in photography, chess, recreational piano, gardening, shorthand, typing, foreign languages, sales psychology, memory training, contract bridge, child rearing, Japanese brush painting, public speaking, chairing a meeting, folk dancing, playing the recorder, basic design, etc.

Adult Education (liberal): Programs or program series in Oriental philosophy, the role of women in society (3-day symposium), word roots and origins, dramatized history of Communism, the scientist in society, etc.

Public Affairs: Programs or program series dealing with controversial local and regional issues (weekly), local candidates and ballot issues (with League of Women Voters), interpretation of week's news, mapping the week's news, coverage of state and federal legislative committee hearings, coverage of United Nations General Assembly meetings in San Francisco, coverage of annual world affairs conference (with World Affairs Council), symposium on doctor's role in community, etc.

Art and Music: Programs or program series with San Francisco Opera Association, San Francisco Symphony Association, San Francisco Ballet Company, summer concert series with leading chamber groups, weekly performances of instrumental and vocal virtuosi, concerts with leading modern jazz groups, weekly series on the elements of art, etc.

Drama and Literature: Special presentations of classic, modern and original dramatic works by professional and semi-professional acting companies, presentations of opera, operetta and Gilbert and Sullivan, weekly dramatic readings, weekly book review and discussions, etc.

Special Community Services: Series training United Crusade solicitors (for United Bay Area Crusade), training in basic first aid (for American Red Cross), on-the-job training for firemen (for San Francisco Fire Department), training in industrial safety practices (for San Francisco Safety Council).

These examples drawn randomly from the program schedule of KQED are not intended to be inclusive, but rather to represent the spectrum of programming that reflects the purposes of educational television. A description of program content can only hint at the underlying purpose of educational television: the pursuit of excellence in all its manifestations. For unless the educational broadcaster is filled with the spirit of excitement that is inherent in the process of discovery we call learning, his best intentions will result in programs that rarely rise above the pedantic and pedestrian.

A recently published study of audience attitudes toward television indicates that the vast majority of our people are satisfied, if not enthusiastic, about what they are getting on their home screens.[9] In this sense, there are virtually no neglected audiences in television--

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[9] Gary A. Steiner. The People Look at Television. New York: Knopf, 1963.

save that highly vocal minority of well educated people who find their leisure time rewards in other pursuits. This group, of course, is one of the audiences educational television should serve; it cannot rest its case on this group alone, however. Commercial television has been eminently successful in achieving its goal of serving the greatest number. It has done so by the simple device of appealing to a common human desire to be passively entertained. The neglect, therefore, has not been one of audiences so much as it has been one of purpose. To dedicate the most powerful communications tool devised by man's ingenuity to passive entertainment is to trivialize the goals of his ingenuity.

Educational television must take up this tool and put it to the service of more noble purposes. We cannot be satisfied with passivity; we must ask an engagement of the mind. Each of us has within us those qualities of reason and deep sensitivity that sets man apart from the higher primates. In many of us it is a dormant if not neglected quality. Most of us are satisfied with commercial television because it rarely asks us to make the effort to call that neglected quality into play. And even more rarely is it possible to call it into play with a common theme that touches all alike--or even that massive majority that passively enjoys commercial television.

It is not so much to "neglected audiences" that educational television must turn its attention and efforts, but rather to that "neglected quality" in all of us that needs to be aroused and nurtured.

CHAPTER 3

THE ECONOMIC STATUS OF EDUCATIONAL TELEVISION

Educational television grew steadily between 1953 and 1964. Each year saw 5 to 10 new stations begin broadcasting. By 1964, 88 stations were on the air. Fifty-five were using VHF Channels 2 to 13; 33 were broadcasting in the UHF range 14-84. In developing the financial data for this chapter, requests for information were mailed to these stations (listed in Appendix A). Replies were received from 75 stations providing the data presented in Tables 1 to 7.

During the 1950's the ETV audience grew slowly. By 1963, over 50 percent of American homes were within reach of an educational signal and audience surveys[1] indicated that 10-25 percent of those within reach of a signal were regular viewers. Overlapping this audience were students enrolled in telecourses for credit. This audience did not reach the million mark until 1960.[2] Since then it has grown rapidly to an estimated 7,000,000 students enrolled in 800 school systems and 400 colleges and universities. This audience includes not only the viewers of open-circuit broadcasts, but also some 500 closed-circuit (cable) systems operating in schools and other institutions.

Although closed-circuit television accounts for a substantial portion of the audience, the Conference on the Economics of Educational Television was restricted to broadcast television for several substantial reasons: the task of identifying and contacting the closed-circuit operators was beyond the resources available and their particular operations made for different economic problems. In an earlier USOE project, Nelson[3] (1962) estimated the equipment costs of a closed-circuit television system at $54,700 and annual operating costs (exclusive of teacher and administrative salaries, special visual aids, film rental, depreciation and maintenance) at $26,800.

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[1] Wilbur Schramm, Jack Lyle, and Ithiel deSola Pool. The People Look at Educational Television. Calif.: Stanford University Press, 1963.

[2] L. E. McKune. A National Compendium of Telecourses for Credit and Other ETV Activities: Vol. 9. East Lansing: Michigan State University of the Air, Kellogg Center, 1962.

Equipment Costs	
2 Vidicon cameras, professional type	$20,000
1 Camera switcher	4,000
1 Film chain (1 16 mm and 1 2x2 projector)	12,000
1 Sync generator and test	4,000
Audio-control room (mike boom $600)	2,500
Lighting	1,500
Staging equipment, draperies, easels	1,000
Film equipment -- viewers, editors, storage	500
Audition 16 mm projector	700
Distribution system within one building feeding 10 classrooms including 20 TV sets	8,500
	$54,700

Operational Costs	
Tubes and parts	$ 3,000
Office supplies, telephone, postage	500
Operations staff (6 hours a day)	
1 producer-director-coordinator	7,000
1 engineer	6,000
part-time operator and set maintenance	2,000
4 part-time camera operators	2,000
part-time art and stage help	2,000
1 administrative assistant	3,800
Office furniture	500
	$26,800

On the basis of these data, Nelson estimated the capital investment of 250 closed-circuit TV installations in April 1961 at $10,750,000 and the annual operating costs at approximately $4,000,000. With twice as many installations today, a rough estimate indicates a 20-million-dollar capital investment by late 1963 with operating costs approximating $8,000,000.

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[3] Lyle M. Nelson. "The Financing of Educational Television," Educational Television: The Next Ten Years. Stanford University, Calif.: Institute for Communication Research, 1962,pp. 187-88.

A more recent development which will make a greater number of channels available is the Instructional Television Fixed Service, utilizing the channels in the 2500-2690 megacycle band. The proposed service provides a supplemental, multi-channel facility which functions as point-to-point broadcasting over short distances. Television sets require special converters to receive the signals in this range, which do not interfere with the main broadcast channels. Although these systems will not serve the general public, they do provide an alternative to closed-circuit systems for individual school systems. Experimental installations are being tested, but at the time of the conference, reliable cost data are not available.

Expenditures for ETV. Tables 1 and 2 present frequency distributions of the capital investment and the operating budgets of the educational stations reporting. The data are grouped separately for UHF and VHF stations and by type of license. In general, the community stations report the largest capital investment and operating budgets, the college and universities the lowest. The medians reported for school, municipal and state-operated
7 stations are somewhat high because of a single tally for what is actually multiple-station operation. In several instances (*) the data reported are for a network operation. Lacking separate data for programming versus operating costs, no meaningful subdivision of cost by station was possible in these few instances. Nevertheless, any subdivision would curtail the range presented.

TABLE 1 Capital Investment of ETV Stations at End of 1963, by Type of License

AMOUNT INVESTED	VHF STATIONS				UHF STATIONS			
(thousands of dollars)	school municipal state	college or university stations	community sponsored stations	Total	school municipal state	college or university stations	community sponsored stations	Total
Over 5,000			1	1				
Over 1,000		1	1	2	1			1
900 - 999	1 (*)			1	1			1
800 - 899	2 (*)	1		3				
700 - 799	1 (*)	1	1	3		1		1
650 - 699		1		1				
600 - 649			1	1				
550 - 599		1		1				
500 - 549	1	3	2	6	1			1
450 - 499			1	1			1	1
400 - 449							1	1
350 - 399			1	1	1			1
300 - 349		3**	1	4				
250 - 299		3		3	1	1		2
200 - 249		2		2	2			2
150 - 199	1			1	3			3
100 - 149		1 (*)		1		1		1
50 - 99		1	1	2	4			4
0 - 50								
no report	1 (*)		1	2				
MEDIAN	$ 750	350	525	515	200	275	450	250

(*) Joint VHF-UHF operation of 2-4 stations
** One of these does not include building, furniture, land

TABLE 2 Total Operating Budgets for 1963 Classified by Type of License

AMOUNT (thousands of dollars)	VHF STATIONS school municipal state	college or university stations	community sponsored stations	Total	UHF STATIONS school municipal state	college or university stations	community sponsored stations	Total
Over 1,000	1 (*)		3	4	1			1
750 - 999	1 (*)			1				
500 - 749	1 (*)		2	3				
450 - 499		1		1				
400 - 449	1 (*)			1	1			1
350 - 399		1 (*)	1	2		1		1
300 - 349	1 (*)	1	1	3			1	1
275 - 299		1		1				
250 - 274	2	1	1	4				
225 - 249		1	2	3			1	1
200 - 224		1		1				
175 - 199		2 (*)	1	3				
150 - 174		2		2	4			4
125 - 149		2 (*)		2	1	1		2
100 - 124	1	1		2	1	1		2
75 - 99					1			1
50 - 74		3		3				
0 - 50		1		1	3			3
no report		1		1	2			2
MEDIAN	$ 375.6	162.5	400	250	137.5	137.5	275	150

(*) Total budget for a multiple station operation of 2-4 UHF and VHF stations

Nelson (1962) estimates a minimum budget requirement of $120,000 for minimal operation of a VHF station, and approximately $400,000 for professional operation (the essential difference being in size of staff and programs). Nearly all of the VHF stations have budgets above this minimum and a quarter have budgets sufficient for professional operation. Except for three stations, none has the million dollar capital investment which Nelson believes necessary for professional operation, and 20 percent fall below his minimum estimate. This latter group are predominantly college and university stations.

Distribution of operating costs. Table 3 reports the distribution of operating budgets by four main categories of expenditure: administrative expenses, operating expenses, program costs and other expenses. Stations falling above the median in operating budgets are compared with those falling below the median. It is not surprising to note that as budgets go up, administrative costs take a smaller fraction of the budget, operating costs stabilize, and more of the budget is available for programs. Administrative and operating costs consume the major portion of small station budgets. Operating costs take about one-third of available funds regardless of type of station or size of budget. It is apparent that budgets must anticipate program costs, and programs are educational television's most important ingredient.

Contributed services. Half of the stations report either contributed services, programs, or both as a supplement to their regular budgets. Table 4 indicates that these contributed services represent an average increase in budget of 8-10 percent. It is significant to note that the community stations are most dependent on such assistance. Nine of the 12 community stations depend

TABLE 3 Proportion of Operating Budget Allocated to Administration, Station Operation, Program Production and Other Expenses (1963)

Percent of budget expended	V H F STATIONS												U H F STATIONS											
	Stations with budgets under $250,000				Stations with budgets over $250,000				TOTAL				Stations with budgets under $150,000				Stations with budgets over $150,000				TOTAL			
	Adm	Opr	Prg	Oth	Adm	Opr	Prg	Oth	Adm	Opr	Prg	Oth	Adm	Opr	Prg	Oth	Adm	Opr	Prg	Oth	Adm	Opr	Prg	Oth
70 & up		1								1					1				1				2	
65 - 69																			1				1	
60 - 65		1	2				1			1	3			2				1				3		
55 - 59		1								1														
50 - 54	1	2				2	4		1	4	4				2			1	1			1	3	
45 - 49			1				2				3													
40 - 44	1	1	3			4	5		1	5	8			1	1			1	2			2	3	
35 - 39		4				5	3	2		9	3	2	1	1	1			1	1		1	2	2	
30 - 34		2	4	1	1	3	4		1	5	8	1					1	3	2		1	3	2	
26 - 29			1	1	3	2			3	2	1	1			1					1			1	1
23 - 25	1	3	1		2	2	2		3	5	3		1			1				1	1			2
20 - 22	5		1	1	2	3	2	1	7	3	3	2	1	3	1	1	1	1			2	4	1	1
17 - 19	1		2		1				2		2													
14 - 16	4	1	1	2	3				7	1	1	2	1	1		1					1	1		1
11 - 13	2				3			3	5			3	1				1	1			2	1		
8 - 10	2	1	1	2	4			5	6	1	1	7	2			2	5		1	4	7		1	6
5 - 7				6	1			1	1			7				1	1			2	1			3
2 - 4				1	1			1	1			2				1				1				2
0 - 1				1				5				6	1		1	1					1		1	1

TABLE 4 Estimated Value of Contributed Services, Contributed Programs and Relationship to Budget (1963)

AMOUNT	1. VALUE OF SERVICES CONTRIBUTED			2. VALUE OF PROGRAMS CONTRIBUTED			3. VALUE OF TOTAL CONTRIBUTION*		
(thousands of dollars)	school municipal or state	college or university stations	community-sponsored stations	school municipal or state	college or university stations	community-sponsored stations	school municipal or state	college or university stations	community-sponsored stations
Over 200						1			2
150-199									
100-149			1			1			
75-99							1		1
50-74			1	1	1			2	1
40-49									1
30-39		1		1	1		1		
20-29	1				1			1	2
15-19			1		1			2	
10-14	1		1	1		2	2	3	1
5-9		3	1	1	3	1	1	1	
4-4.9	2								
3-3.9	1				1				
2-2.9									
1-1.9	1						1		
.1-.9		1	1	1				1	1
None	13	16	3	15	13	4	13	11	3
Amount not specified		1	1		1	2		1	1

*Total contribution columns (#3) include the sum of contributed services and contributed programs plus those stations reporting a combined amount only.

Where contributed services occur, they are, on the average, equivalent to a budget increase of 8-10 percent. In five cases the increment represents a 20-25 percent increase.

on contributed services or programs to augment their budgets. Tax-supported stations are not as dependent on such services.

Broadcast schedules. Considerable variation occurs in ETV broadcast schedules. None approaches the broadcasting hours typical of commercial stations. In Table 5 the hours of broadcasting are classified into school programs, programs intended for various community audiences -- general broadcasts -- and total broadcast hours. Stations operated by school districts, municipal or state organizations feature a schedule composed mainly (two-thirds) of instructional programs for in-school audiences, the remainder consisting of general programs directed to the community. Few of these stations broadcast the entire week.

The other two categories of stations, college and community, reverse the proportions, with approximately two-thirds of their schedules devoted to community programs and one-third to in-school instructional programs. College and universities offer shorter schedules. The essential difference in programming is in the amount of time devoted to program for community audiences. The length of the school day sets a fairly uniform limit to school broadcasting, therefore variations in schedule are largely determined by the amount of general broadcasting. Budgetary limitations appear to restrict the capacity of educational stations to provide a full program service for their communities.

The data in Table 6, taken from One Week of Educational Television[4], provide a distribution of hours and types of programs being broadcast in each category. These data are for 1962 broadcast schedules, but the amount of variation between the two years would not be great.

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[4] One Week of Educational Television: Vol. 2. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1962 (multilith).

TABLE 5 Hours of Broadcast Operation Per Week by Type of License (1963)

NUMBER OF HOURS	SCHOOL BROADCASTS			GENERAL BROADCASTS			TOTAL BROADCAST HOURS		
	school municipal or state	college or university stations	community-sponsored stations	school municipal or state	college or university stations	community-sponsored stations	school municipal or state	college or university stations	community-sponsored stations
over 80							1		2
70-79							1		3
65-69									3
60-64				1		1	4	2	
55-59	1					1	4	2	1
50-54						2	1	4	
47-49	1						1		3
44-46								1	
41-43				2	1		1	3	1
38-40	1	1	1	1	1	2	1	1	
35-37	6		1		1	2	2	2	
32-34	3	1	1			1	2	2	
29-31	1	2	2	1	4	2	1	3	
26-28		1			1		1		
23-25	1	1	1	3	7	1	1	3	
20-22	2	2	3	2	2				
17-19		1	2	4	2	1	1	1	
14-16	2	2	2	2	5			1	
11-13	1	2		2	1		2		
8-10	1	5		1					
5-7	2	5							
2-4		1		3					
0-1	2	1		2					
MEDIAN	30	12	22	18	24	36	45	39	67

TABLE 6 Broadcast Hours Per Week by Program Subject (1962)

PROGRAM SUBJECT	SCHOOL INSTRUCTIONAL PROGRAMS	COLLEGE-ADULT INSTRUCTIONAL PROGRAMS	GENERAL BROADCAST PROGRAMS	TOTAL HOURS
Science & Technology	294	132	136	562
Social Science	135	67	245	447
Language	204	81	14	299
Literature	34	34	22	90
Children's Programs	10	0	199	209
Religion	0	1	15	16
Arts	77	6	343	426
Education	0	7	13	20
News	3	0	54	57
Public Affairs	2	3	122	127
How To	23	20	58	101
Teacher Training	32	1	-	33
Guidance	-	-	17	17
General Entertainment	-	-	44	44
Miscellaneous	26	9	115	150
Total Hours	840	361	1,397	2,598

Sources of support for ETV. Tax-supported educational television stations, those licensed to school districts, and city or state educational agencies generally show lower operating budgets, lower capital investment, and dependence on a single source of income. Table 7 shows sources of support of the various educational stations and the proportion of income derived from each source. Stations operated by school districts are characteristically dependent on a single source of income. Though somewhat true of stations operated by colleges and universities, this latter group is nevertheless more like the community stations in having multiple sources of income. The essential difference between these two groups is the importance of private contributions and contract production of programs to community stations. One-half to two-thirds of the budgets of most community stations come from these two sources. It is a rare station that does not derive some of its support from tax sources. It may be argued that the greater the amount of tax support received by community stations, the less they are able to fulfill their function as community stations. The greater the proportion of school programs, the greater the neglected audiences in the daytime schedule, for less service can be given to pre-school children, women in the home, older people, and others for whom daytime programs are important.

A number of speculations are possible as one compares the data presented in the several tables. The freedom of broadcasters who are totally dependent upon a single source of support is a matter of reasonable concern. Under such circumstances, it is possible that certain topics, e.g. local political matters, cannot be treated unequivocally. Hopefully, colleges and universities could extend the concepts of academic freedom to staffs responsible for station operation.

TABLE 7 Sources of Income by Type of Station (1963)

Column 1. Public and Private Schools
2. Municipal, County or State Agencies
3. Colleges and Universities
4. Member Organizations
5. Contributions
6. Contract Productions or Other

PERCENT OF INCOME RECEIVED	TYPE OF STATION																	
	School, municipal or state						College or university						Community-sponsored					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
100	9	3						1	8									
95-99	4								3									
90-94	1								2									
85-89									1									
80-84	1								1									
75-79	1																1	
70-74									1				1					
65-69																		
60-64		1									1		4					
55-59	1						1						1					
50-54																	1	1
45-49									1									
40-44		1							1				1				1	4
35-39									1			1	1			1	1	1
30-34							3	1				1	1	1			1	
25-29	1						1										1	
20-24						1			1		1		1					1
15-19								1					1		1			2
10-14			1			2	3						2				3	2
5-9			2		2		2				2	2			3	1		2
0-4			1		3		1			2	1	2			1	1	1	2
Totals?	18	5	4	0	5	3	11	3	20	2	5	6	13	1	5	3	10	15

A more serious problem is apparent in the actual levels of provided support. At the risk of violating certain statistical assumptions, a comparison of hours of broadcasting with budgets provides a crude gauge of the amount of money a station has available per hour of broadcasting. Using median figures and assuming a uniform distribution of funds per program, all stations spend an average of $150 to $200 per hour of programming. If one-half goes for administrative and operating costs, the amount remaining for talent, graphics and other aspects of production cannot be great. On stations operated primarily for instructional purposes, the budgetary allocations for community broadcasts can easily suffer still more. Granting that such use of averages is dangerous because of the degree to which it violates actual cases, it is nevertheless true that for each station surpassing the average in its per-program budget, another falls below, and the totality scarcely speaks of affluence. In contrast, the expenditures of commercial stations for programs range from a 50:1 ratio to a 1000:1 ratio. Under such circumstances it is a tribute to the ingenuity of educational broadcasters that they are able to command the attention of 20 percent of the total audience for an hour per week; but it is also doubtful that they will ever succeed in providing the full service needed by their communities. ?

Yet even the support they have is tenuous. A significant portion of the income of community stations is derived from contract productions. These are generally programs produced locally for national distribution, and in certain instances for regional distribution. The source of this income is National Educational Television, itself supported in part by contributions from affiliated stations but mainly by the Ford Foundation. Educational television could not have achieved its present status without the wholehearted support of the Ford Foundation which has underwritten the enterprise with nearly 100 million dollars. Yet the availability of such funds is subject to Foundation policy. This was seen recently when the Ford Foundation revised its policy to provide a specific annual grant for the support of community programming.

Local ETV Station Operation[5]

Keith Engar, in a paper prepared for the conference, compared the operation of two stations in detail. The information he provides adds substance to the generalizations drawn from the group data in Tables 1-7. One ETV station (I), serving as an instrument of an educational institution, concentrates heavily upon specific instruction. Although this particular station operates on a VHF channel, such a station usually broadcasts in the UHF range. The second station (C) is a community station in a large metropolitan area, also a VHF operation. The size of the population served by the station obviously affects the nature of its broadcasting. A UHF station in a large metropolitan market will have to depend heavily on schools for operating income and is unlikely to have funds for quality programming in adult education. It is next to impossible for UHF stations in the largest markets to conduct successful fund-raising campaigns in the homes because of the reception problems. As UHF sets become more prevalent (at a rate of 6,000,000 sets per year) this situation should change. The following chart summarizes the program schedules of the two stations.

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[5] K. M. Engar. Local ETV Station Operation. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

	Station I		Station C	
Program Origin	Hours per week	%	Hours per week	%
Local-originated at station employing 50% or more live talent; excludes syndicated or transcribed programs	28:00	57	32:00	49
NET - network program furnished station by regional or national network	16:30	34	11:45	18
Other - syndicated film, taped or transcribed programs	4:30	9	21:45	33
Total	49:00		65:30	

	Station I		Station C	
Program Types	Hours per week	%	Hours per week	%
Instructional - in-school, teacher in-service, or college credit courses given as part of program of instruction	30:30	62	36:30	56
General Educational - no formal credit	12:30	26	21:30	32
Performing Arts - live or recorded drama, concert, opera, dance	4:00	8	3:00	5
Public Affairs - talks, panels, forums, documentaries on local, national, or international affairs	2:00	4	4:30	7
Light Entertainment - popular music or variety programs	0		0	
Total	49:00		65:30	

The two stations reveal similar profiles. However, Station I does not broadcast on weekends, is less concerned with home audiences, and depends heavily on NET. Station C is less dependent on NET, using instead a variety of sources such as commercial film distributors, U. S. Government agencies, and unilateral exchange with other ETV stations. It produces 24 different programs per week, spending 2 to 16 hours per program in camera rehearsal. This compares with 20 programs per week for Station I, averaging two hours in rehearsal, and most of this devoted to instructional programs. Station I is prohibited by state law from carrying any political programs, while Station C sets its own policy. Both stations differ radically in programming for national audiences, Station I producing fewer than 30 programs for national distribution, Station C over 800. Station I will devote less staff time to evening programming than Station C, as one would expect, for Station C depends more upon its home viewers for financial support. One of the basic ETV aphorisms has to be, "Where your circulation is, there is your money and your identity." These differences in emphasis are reflected in the difference in the station staffs.

Station staffs

Station I	Station C
Administrative - (2½ persons)	Administrative (8½ persons)
1 Manager 1 Receptionist (½) ✓ 1 Secretary	Includes Exec. Director and assistant, Business Mgr. and two bookkeepers, 5 clerical-reception (3 PT) ✓✓✓
Development, Promotion, and Public Relations (1)	Development, Promotion, and Public Relations (10½)
1 Program Information ✓ (½ T promotion, and ✓ ½ T traffic manager)	Includes Director and assistant, Promotion Writer, Supervisor of Community Fund Raising and two (½ T) ✓✓ assistants and 7 clerical-publicity (3 PT) ✓✓✓
Engineering (8½)	Engineering (28½)
1 Director 2 Transmitter technicians 4½ Studio technicians 2 Student cameramen (½ T)	Includes Director and two technical supervisors, 3 supervisors (union) and 15 technicians (union), and 7½ → 1 or 15? film, recording, clerical, and custodial

✓ or ✓✓✓✓✓✓✓✓
1 or 9
part-time ✓ ✓

what do I and C stand for?

Program Department (46)	Program Department (43)
1 Director 1 Production Manager 1 Director, school programs 5 Producer-Directors 3 Art, staging, film 35 Volunteers	Includes Director and Exec. Producer, Production and Operation managers, 2 facilities supervisors, 10 producers and/or directors, 6 Floor-managers, 4 Floor men, 1½ announcers, 2 music, 8 art, staging, film, photography, scenery, 4 clerical
Total: ~~56½~~ 56	Total: 90½

Station C has 84 full-time and 13 part-time employees compared to 20 full-time, four part-time, and 35 volunteers at Station I. The disparities in staff appear great until one realizes that Station C devotes considerable effort to fund raising, processes more films and tapes from a greater number of sources, puts more time into studio rehearsal, and uses union personnel for station operation, without any of the 350 hours of volunteer help received by Station I.

20
+35
55

who is full-time?
who part-time?
Table doesn't specify either

Unless 4½ technicians does not mean 4 full-time plus 1 half-time, but rather 9 half-time? etc.
no, that would be Station I.

I make it either 6 or 13 part-time for I and 13 or 12 or 24 or 26 for C

Station facilities. Both stations have similar facilities, although Station C has image orthicons in all its studios. This station has made a capital outlay of over $1,000,000 since its debut, compared with $850,000 for Station I. A hard fact emerges: although Station C has somewhat more elaborate facilities, both are expensive. An image orthicon camera or videotape recorder costs the same, regardless of the buyer, and the instructional program needs just as fine facilities as the program for general viewing. If an educational station is to provide high-quality broadcasts, it will need the same kind of equipment as a commercial station.

total or each?

	Station I	Station C
Studios	2 (3,240 sq. feet)	2 (3,600 sq. feet)
Cameras	2 image orthicon 2 studio vidicon 1 overhead vidicon	5 image orthicon
Film chain	2 vidicon film chains 16 mm projectors slide projectors telop	2 vidicon film chains 16 mm projectors slide projectors telop
Recorders	2 Ampex videotape recorders 1 kinescope recorder film cameras	3 Ampex videotape recorders 1 kinescope recorder film cameras — how many
Production devices	1 9x12 rear screen with two projectors studio lights scene and art shop	2 "huge" rear screen projectors studio lights scene and art shop
Audio equipment	standard complement	standard complement

The annual budgets of the two stations reflect the staff and facilities of the two stations. Their sources of income are noticeably different, with Station I almost totally dependent on a single source, whereas Station C obtains 22 percent from the community at large.

Financing

	Station I	Station C
Administration	$ 40,688	$ 175,000
Development		61,000
Promotion	8,766	59,000
Technical	58,351	434,000
Program	94,344	336,000
Reserve for adjustments		50,000
Capital outlay	30,000	10,000
Total	$232,149	$1,125,000

Sources of income

	Station I	Station C
Schools, colleges, libraries	$217,832	$ 234,825
Recording services	11,473	206,288
Contract production		366,303
Interest on investments	2,844	(not specified)
Miscellaneous		67,584
Community fund drive		250,000
Total	$232,149	$1,125,000

Engar concluded his paper by stating:

An ETV station must scale its operations to the community it serves. If the community is relatively small, the station must depend upon institutional support and therefore will tend to be an instrument of the institutions financing it. If the community is large, there is a chance for greater diversification of support and equally of programming. Though personnel requirements and programming may differ, all stations need similar facilities. For small school districts an ETV operation is impractical. Should there be a compelling need for ETV in a district where no station's service is available, then perhaps a closed-circuit facility is the best answer.

A broadcast ETV station is still a broadcasting facility, not a point-to-point medium and must therefore be able to operate enough hours and with sufficient quality to command attention of students and parents. To attempt less is to short-change the public.

CHAPTER 4

EDUCATIONAL TELEVISION: PRESENT AND PROSPECTIVE

ETV is almost unique among educational innovations for the degree of research it has generated at applied, developmental and field testing levels, especially in its instructional side. Although information, communication and learning theories have served as orienting factors in research, practical problems have predominated. Inevitably the questions extend beyond the medium of communication to the communicating process and its content. ETV authorities were invited to prepare position papers on the various phases of educational television identified in Figure 1 (p. 8). The following is an attempt to synthesize the key information and insights of these papers. They point out what ETV can and cannot do, what it should do and some of the problems faced in the doing.

Instructional Television

Whatever media or technique instructors have devised, be it book or film, lecture or seminar, laboratory or field trip, poorly-designed or well-designed, man and child have learned from it. Research of the past decade reveals that they also learn from television.[1]

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1. This section contains excerpts from papers by C. R. Carpenter, Review of Research on Instructional Television; G. L. Gropper, Teaching Via Television: A Behavioral View; and D. G. Ryans, The Role of Television in an Instructional System. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

Schramm,[2] Kumata,[3] Holmes[4] and Stickell[5] have systematically reviewed and critically analyzed much of the research comparing the effectiveness of instructional television with other methods of classroom teaching. Generally the findings show that the potential of television for accepting, distributing and presenting formal instruction to variegated students, using diverse content or subject matter and diversely presented, compares favorably with direct personal teacher-to-student instruction. Though used in its primitive stages of development, television has at least not adversely affected the quality of instruction.

Experiments with instructional television have used the content of mathematics, physics, chemistry, biology, psychology, sociology, political science, literature, English, foreign languages, and many other subjects. Research shows that when lessons are prepared for specified content, then presented via television to appropriate students, learning occurs. This generalization holds over a variety of instructional situations. The credit for success must go first to the creativity of the devised program, secondly, to the medium (television) which carries it.

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[2] Wilbur Schramm, "What We Know About Learning From Instructional Television," Educational Television: The Next Ten Years. Calif.: The Institute for Communication Research, Stanford University, 1962, pp. 52-76.

[3] H. Kumata, An Inventory of Instructional Television Research. Ann Arbor, Mich.: Educational Television and Radio Center, 1956.

[4] P. D. Holmes, Jr., Television Research in the Teacher-Learning Process. Detroit, Mich.: Wayne State University, Division of Broadcasting, 1959.

[5] D. W. Stickell, Critical Review of the Methodology and Results of Research Comparing Televised and Face-to-Face Instruction. Unpublished Doctoral Thesis, The Pennsylvania State University, 1963.

The results of recent research suggest that television for teaching should be greatly broadened. Limitations may be imposed when superior picture, sound or color definitions are required. Television can probably be used to teach complex as well as simple material. Television can function to develop concepts, increase problem-solving ability, teach creative thinking no less than by direct conventional methods of instruction. The crucial task is to acquire the same confidence with which we now produce materials yielding these outcomes with conventional methods.

Televised instruction need not be passive instruction. Recent research proves that programs which demand constant learning responses and practice to provide needed reinforcement can be televised. Television can be effectively coordinated with other instructional procedures. In most of the research, teachers have presented the instructional material by television, thereby limiting the kinds of stimulus materials and conditions. Only limited exploration has been made of providing direct interaction or transaction between students and stimulus materials without the intervention of the teacher. The research indicates that television is not the principal or over-riding influence on learning; the quality of the stimulus materials and the interaction of students with them are primary. Conventional techniques apparently yield equivalent results whether administered face-to-face or by television. One of the interesting results of the comparison research is the number of "no significant differences" which occur.

Stickell reports that the more rigorous the experimental design and controls, the fewer the statistically significant differences.

Carpenter[6] concludes that when significant difference occurs in a relatively exact comparison between televised and direct teacher-to-student instruction, something was wrong with the experiment. Such equivalence of effect offers school administrators procedural options. Since quality may be obtained by alternate methods, the decision to televise or not can be based on other considerations such as:

1. The kinds of content required and its preparation and organization into effective patterns of instruction.
2. The available staff and relevant competencies with respect to the options available.
3. Availability of funds to cover capital investment and operating costs.
4. The student population to be served including grade levels, numbers, distribution in space, mobility, and conditions of instruction.
5. Appropriateness and acceptability of the selected option relative to instructional objectives and people affected by the selected option.

Television as part of an instructional system. Television has been used mainly to distribute conventional instructional materials over wide geographic areas. It has supplemented or temporarily replaced the regular teacher. But television is only one medium of communication. Books, films, teaching machines and teachers are others. One of the problems in the improvement of education is how to incorporate the various media and materials into integrated systems which are more efficient in producing specified learning outcomes. A number of decisions are required to accomplish this:

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[6] C. R. Carpenter and L. P. Greenhill. Comparative Research on Methods and Media for Presenting Programmed Courses in Mathematics and English. University Park: The Pennsylvania State University Press, 1963.

1. Determining the information to be transmitted to the learners: the facts, rules, concepts, relating to the psychomotor, cognitive, and affective behaviors desired. These are decisions pertaining to curriculum, course and lesson content, and require the selection, assembling, organizing, and storing of relevant information.
2. Determining the specific learning outcomes for given learners: the operationally-defined pupil behavior to be acquired, selecting the appropriate information for transmission, evaluating the potential of the various media available -- books, teachers, films, teaching machines, television, etc.
3. Determining the media to be used: the particular content, and the form of its presentation, i.e., direct vs. indirect approach, inductive vs. deductive, etc.
4. Programming the material for presentation.

Critical decisions must be made in each phase. If television is selected, consideration of its special potentials and limitations is necessary. Some of the most important of these are (1) its capacity to transmit a wide range of both video and audio materials, (2) its ability to function in concert or to incorporate many other carriers of stimulus materials such as recordings, projectuals, graphics, printed materials, etc., (3) its capacity to span space and reach large numbers of students with low-unit cost, (4) its recording capacity which permits pre-testing, revision and repetition of materials, (5) its potential for magnification and amplification insuring clear perception of specific instructional materials. Also to be considered are television's limitations on learning, e.g., the interests, previous learning, or individual differences in ability of students to be addressed.

In programmed instruction where one student interacts with a machine or with a textbook, individual differences among students are adjusted for by the level at which the lesson materials are prepared, by pre-testing the materials with the students at that level, and by allowing each student to select his learning pace. When programmed instruction is presented by means of such media as films or television, the interaction occurs between the device and many students. During such a fixed learning period, the pace is determined not by the individual student but by the schedule of the presentation which itself obtains for all students.

All media feature assets for some purposes and liabilities for others. An ideal education system, employing a variety of media, depends upon the optimum matching of capabilities and objectives, and on the maximum potential of offsetting the limitations. A typical educational system will fall short of the ideal and will derive from the trade-offs between assets and liabilities. Cost is one basis for assessing the outcome of such trade-offs, student achievement another. In the case of television, it would appear undesirable to use it for subject matter which can be taught as well or better by other less costly media. The more complicated and costly television or film media are better reserved for subject matters containing dynamic or transient stimuli. Science demonstrations of principles of physics or chemistry or laboratory procedures involving non-verbal, visual stimuli are excellent examples. Similar aspects can be found in art appreciation, social studies and foreign languages.

The capability of a medium to present the relevant subject matter content is a first criterion in its selection. A second involves the capability of the medium to provide control over the presentation process. The medium should have the capability of exercising control over the amount of stimulus material presented at a given time and the duration of its presentation; over the opportunity for student response; and over the opportunity to provide confirmation. Television does possess most of these control features.

Factors or conditions affecting the learning process and hence to be brought under control are: (1) the source and resources of the stimulus materials, their characteristics, sign-symbol modes, authenticity, structure, significance, and scope; (2) the stimulus materials which are selected, ordered or organized, transformed and adapted for presentation to learners; (3) the immediate surroundings or environment in which the stimulus materials are presented to students; (4) the learning responses, reactions and transactions of students with stimulus materials; (5) the amounts and appropriateness of kinds of reactions, whether overt or covert, which are performed, the schedule of these reactions and their effects on the learning tasks; (6) the evaluations and comparisons, especially by students themselves, or achievement rates and terminal performance levels, with the purposes, objectives and standards set for the learning tasks. Implicit in this set of conditions are the several facets of teacher behavior: motivating, presenting, organizing, evaluating, and counseling, however managed, by teacher, television, book, film, teaching machine, demonstration, model, field trip, or any combination thereof.

Currently, few instructional television programs exist which qualified experts agree are "well-prepared" and approach their potential. Neither the science nor the art of preparing such materials has progressed to the point where adequate presentations can be produced and distributed with assurance that the instruction goals are being met. A part of the difficulty is that adequate testing criteria are yet to be developed. Currently, instructional television suffers the technological void that test construction experienced during its early phases. The first objective tests were largely "off the top of the head," but later the criteria for evaluating tests and the knowledge for preparing them went far beyond the rote learning and recognition of concept conditions characteristic of tests a generation ago.

Recent research on instructional films, teaching machines and education shows certain relating conceptual trends. It suggests guidelines to the planning and preparation of program materials:

1. The content of a televised lesson must be adapted to the particular purpose of instruction intended at a given time. It seems unlikely that many ETV programs applicable to a wide variety of instructional situations will be useful.

2. The content of a televised lesson must be adapted to the experience, aptitude and readiness of the learner. It may be that for particular subjects it will be necessary to have several lessons, each adapted to the capabilities of a particular set of learners.

3. The lesson content should aim to motivate the learner, particularly because acquiring the appropriate knowledge or skills is likely to be dependent on subsequent activities.

4. The television lesson must be directed at clearly-defined behavioral goals. The key word is behavior. The desired performance is described in terms of the specific, measurable behaviors involved. Avoid general statements such as "Understand the meaning of Boyle's Law." Preferable is "Compute the volume of gas, given information about pressure and temperature." Such explicit statements about end-behavior provide not only a clearcut determination of the goal but a non-ambiguous criterion for judging success in reaching it. Such statements can readily include not only acts of recognition or recall but also performance of simple or complex tasks.

5. The content of a televised lesson must be presented in appropriately sized (a) content steps, and (b) goal steps if it is to be effectively communicated and mastered by the learner. If the steps are too small, boredom may ensue; if too great, acquiring the behavior may be impaired; if not related to prior skill and knowledge of the learner, interference may result.

6. The content of the televised lesson must be optimally sequenced and organized.

7. The content must be planned and arranged to provide for the active participation of the learner and the practice of the desired behavior.

8. Provision for reinforcement and feedback of information to the learner regarding the appropriateness of his responses is necessary.

Before actual use, lessons should be pre-tested to check types, kinds and rates of errors and then revised until the desired goals are achieved.

Instructional Television and School Curricula[7]

In their present state of transition resulting from research concentrating on problems of instruction, schools are re-examining the learning processes, the traditional goals, the curriculum content, the administrative and organizational patterns, the role of the teacher, and most significantly for immediate consideration, the role of new media in enhancing learning. New mathematics, new science, new foreign language instruction, and new media attract attention. At first, arguments were ventured that television offered solutions to teacher shortages, overcrowded classrooms, soaring costs, and to the quality of instruction. Today emphasis on educational economy is sublimated to the quest for heightened learning efficiency.

perhaps should be but is it really?

A number of conditions have been described which relate to the improvement of instruction by incorporating educational television. Hopefully, ETV will emerge as a component part of an interdependent instructional system. Within it, the medium can bring especially talented teachers to greater numbers of students. Carefully-planned programs can heighten the quality of instruction. The television screen can provide demonstrations not readily available to many classrooms. It has special potential for "unassembled" classes for adults, for the handicapped and for others who do not have ready access to classroom facilities.

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[7] Excerpted from Chester D. Babcock. Instructional Television and School Curricula. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

Unfortunately, many of the evaluations have not been in terms of the total teaching-learning process, but have usually been limited to a few aspects of the cognitive area. The easiest teaching task is to transmit facts. But if we are to accomplish our basic purposes, we must seek more than storage and retrieval of facts. Other goals such as concept development, inductive reasoning and independent inquiry, demand our attention. Here television can serve ably.

But it is no panacea. It can be dull and mechanical. Too many of the lessons, to date, have too much talk. ETV is subject to "decay" effects due to failure to create essential preparatory sets or follow-up activities. Poorly coordinated with other instructional activities and facilities, it is ineffective. Single-channel, open-circuit broadcasting introduces other limitations because only one program can be broadcast at one time. Scheduling problems, particularly in secondary schools, become acute when only a single channel is available. Not only do daily schedules vary from school to school, but there may be several sections of a subject meeting throughout the day. The multiple-channel, fixed-address system in the 2500 megacycle range promises greater flexibility. So too does multiple-channel, open-circuit broadcasting. At present six cities have two stations each, and as a result have more latitude in programming.

Midwest Program on Airborne Television Instruction

A variation of the typical open-circuit television station is the Midwest Program on Airborne Instruction, commonly known as MPATI. A four-engine DC6, flying four miles above Montpelier, Indiana operates as an airborne television station. Lessons recorded on videotape are broadcast over a six-state area serving schools and colleges with an enrollment of 7,000,000 students. It is estimated that more than 2,000,000 of these students receive part of their education by this program. Its strengths and weaknesses are similar to those of open-circuit broadcasting, except that both may be amplified by virtue of the larger service area. MPATI has had the advantage of operating on two channels rather than one, and has applied for regularization of service on six channels. MPATI is spending $2,000 to $3,000 per lesson for the production of most courses; it holds per capita costs down by virtue of larger audiences. At the same time, the channels on which MPATI is broadcasting cannot be used at ground level within the broadcast area, and urban areas have reception problems.

Sovereign[8] reports the total costs of an airborne system in Table 8, based on a distribution area of 125,000 square miles. To cover the same territory by a microwave network would require 19 transmitter stations, 38 repeater microwave stations and 18 repeaters at transmitter sites. The reliability and the annual operating costs of the two systems would be similar, but the capital investment required would be roughly five times as great for the microwave network. The decisions required in trading off the assets and liabilities of the several possible systems are not simple. If one had a national curriculum and a national time schedule, a satellite would probably provide the most economical way to deliver a single television program. But when one considers the variations of learning, teachers' abilities, curricula, pupil capacities, not to mention communities, the quality of programs and other relevant factors, straight cost becomes but one factor among many.

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[8] Excerpted from M. G. Sovereign. Relative Economics of Microwave and Airborne Instructional Television Systems. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

Did NAEB report give costs, + if so How does this compare?

TABLE 8 Airborne System Costs

AIRBORNE SYSTEM	2 CHANNELS	4 CHANNELS
Capital Investment		
Aircraft	$1,385,100	$1,385,100
Transmitter (excluding translators)	2,365,000	4,580,000
Translators	140,000	270,000
Input System	190,000	582,000
Additional tape for 12-hour schedule	9,000	0
Total	$4,089,100	$6,817,100

	6 Hours	12 Hours	6 Hours	12 Hours
Annual Capital Service Cost	$ 351,000	$ 352,100	$ 592,600	$ 592,600
Operating Costs				
Aircraft Personnel	248,140	335,390	248,140	335,390
Aircraft Supplies	364,700	687,800	364,700	687,800
Transmitter (excluding translators)	166,200	289,130	190,200	313,130
Translators	14,000	14,000	23,000	23,000
Input System	47,070	84,340	83,600	145,000
Total	$ 840,110	$1,410,660	$ 909,640	$1,504,320
Total Annual Cost	$1,191,110	$1,762,760	$1,515,940	$2,096,920

Problems in Instructional Programming

A critical examination of instructional television in some of our schools too often reveals slavish attempts to reproduce on television the traditional methods of the classroom -- the lecture, the explanation, the essentially verbal experience -- and too seldom efforts to use the visual potential. Missing is the field trip to inaccessible, expensive or hazardous locations; missing are the museum piece too valuable to transport, historical objects, industrial mockups. Missing are the poets and authors, the scientists and statesmen, the artists and musicians.

This describes
B-096a
(NAEB)
Kits 3-5

Curiously, instructional programming is often guilty of aping commercial television with mood music, long credits, and title cards quite unrelated to the learning desired. We have yet to learn how to use television in teaching children how to learn and to want to learn. Too many lessons are, as Dr. Harold Wigren[9] has said, indoctrination rather than education, neat self-contained packages of selected data, preconceived conclusions and established generalizations. They could be planned to present opposing views on both current and historical problems, to sharpen issues, to encourage student interpretation and depth study.

Yet when ETV is properly planned and the medium used in conjunction with other media and instructional techniques, it makes a significant contribution. Given the rapid expansion of school populations, the greater diversity of backgrounds and endowment of students, the shortage of qualified instructors and improved instructor-student relations, and given the burgeoning understanding of man and the physical world, instructional television occupies an important role, present and future.

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[9] Harold E. Wigren. "Educational Television, an Assessment," Educational Resources and Techniques. Austin, Texas: The Texas Audio Visual Association, December 1961.

Imaginative Uses of Educational Television*

by Jerome S. Bruner

One of the things that is quite clear about learning in a school setting, is that unless it opens up a fairly large range of alternatives it becomes constricted. The main objective in teaching is to give the learner a picture of the range of alternative points of view or ways of dealing with a problem. One feature of the Physical Science Study Committee's course for high school students is precisely that. It leads the student to a sense of alternative explanations, as in dealing with the properties of light, whether a particle theory or a wave theory. The students end with a justified feeling of unsettledness. Here television is in an extraordinary position. It is not limited to a single teacher, a single theory, nor a single formula. Yet television has squandered this excellence in randomness by substituting variety for alternatives, variety in a riot of different kinds of programs, and infinite subjects. But at what depth have the different alternatives on any particular issue been even considered, much less exhausted?

A second feature of learning and teaching is that you wish not so much to get something into the learner, but to get something out of him. The learner must be tempted to explore and manipulate -- be saved from being bench-bound. But television is often more a spectacle than a tempter to intellectual action. We tempt action, for example, by using such inventions as the laboratory, the discussion, the confrontation -- almost anything that will get the learner moving. Television tends to freeze the student before a screen. One solution to overcome this and stimulate exploration might be to give the viewer time to respond. Perhaps silence, enabling the learner to gather his wits and question the speaker's, may very well be a necessary condition for turning television into an educational medium.

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*J. S. Bruner. Imaginative Uses of Educational Television. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

Further, the object in teaching is not to force a gob of material into somebody's head, but rather to get that minimum amount that functions to regenerate the rest. It is hopeless to expect a person to long retain a lot of unconnected information. We fight this human weakness by reducing information to a minimum set of propositions that can be used to reconstruct the rest in detail later. An example is science in which compactness is the ideal. The expression $S = 1/2\ gd^2$ can regenerate all you need to know about the gravitational field here or wherever your spaceship may land. So too Acton's "Power doth corrupt and absolute power corrupts absolutely." It cannot reconstruct the Medicis, but it might make it possible to imagine them or even to invent them. In all condensation, selectivity is essential. But selection is dangerous not only in leading to risky follies but in offending common belief. We accept the formulae of physics or chemistry, but in sociology it is not so easy to convince the purveyors of endless, fascinating detail. Imposing simple generative structures of knowledge on a field like sociology involves "bias." But it is inevitable bias. The solution is to present the alternative biases in the hope that at least we have converted the sponge into something more selectively attentive. Given its status as a non-controversial media, the question is whether television is capable of the degree of skillful bias and selectivity to do this structuring well. Of necessity, this will demand sequential programs rather than autonomous individual programs, especially if we are to explore deeply the question of the range of alternatives within one field.

Good teaching encourages discovery on one's own. Research over the last decade indicates that knowledge discovered by the learner tends to be related better to other things, can be better manipulated, transferred, and remembered. The intriguing question is what would happen if the objective of all learning were to encourage discovery -- to wait for the child to discover himself the roles of English orthography. Though the difficulties are staggering, the extremes idiotic, a proper balance is surely sensible. Too little discovery produces tidy, unquesting minds; too much and the culture is of no help to the learner. Educational television could play more good games which stimulate the mind to discover regularities. "Information Please" was one of the first successful programs of this type. A similar result was later achieved by "Professor Quiz." This approach is very useful and obviously challenging -- even on commercial television. Educational television, often overcome by its solemn mission of presenting knowledge, seems to have forgotten all this.

Consider dialogue as one way of fomenting discovery. Some of us have had the experience of watching a brilliant math teacher working with children. Most striking is his masterfulness in dialogue with the children; they are never wrong, frequently pose the wrong problem, then answer it. The teacher leads them to reformulation by dialogue. But, interestingly enough, you identify with the participants. You learn too. Might we not invent techniques of programming that allow a listener to participate in problem-solving in this way? Can you bear a program that does not have a bang "finish"? Our habits run to the "close." Good teachers fight it, knowing that what pays in the long run is to keep the issue open.

Learning cannot occur unless the learner knows the results of his efforts. Feedback, to use jargon, is the heart of the matter. In television teaching, the viewer cannot get such feedback; he cannot know whether he is on the right track. It is wise to admit, therefore, that television is not a completely self-sufficient medium. How can you introduce some feedback technique to assist the learner?

One significant characteristic of television is that it involves symbolic communication and communication by image at the same time. There are three ways in which you can represent knowledge to another. One is by enactive representation; another is by ikonic representation; the third is by symbolic representation.

What is a running bowline? It is a knot. But that description will not get you very far; so you go to the board and try to draw it, and that is equally difficult. One ends by getting a piece of rope and showing how to tie one. So too, with teaching bicycle riding. You throw your leg over the seat, put your foot on the pedal and so on. Some things cannot be described by other means.

The second means of conveying knowledge has to do with representation in imagery. Most people say, "I don't have images." But when asked to name the states of the United States, they start to name them -- Maine, New Hampshire, Vermont -- using a kind of mental map from inside their heads spatially organized. Spatial imagery runs to concreteness. When asked about a triangle, you recall a particular triangle, a highly concrete image that is hard to transform.

A symbolic representation, on the other hand, is much more transformable whether you are using ordinary language or the language of mathematics. Language carries transformative rules that enable us to turn things upside down, to negate them, to put them in the conditional, to translate them, etc. This is the glory and weakness of words and symbols. We need images in the head too. We do much problem-solving in terms of concrete images, often at less depth but faster than by more exact symbolic manipulation.

The great problem about all media that work in terms of pictures is that they risk being impervious to symbolic manipulation. They cut down the possibility of turning things inside out for purposes of problem-solving. This stuck quality of imagery is one of the things that has not been studied in the television learning process. However, if ever there was a medium that could work on the relationship between presentation of ideas in language and through imagery, television is it. As a device to present fact, it might become one of the more effective methods. Why not experiment more?

Let me finally mention one other thing -- intuition. Intuition is usually called guessing by the frightened teacher and she knows that it is not good. Yet it is characteristic of the human condition to reach conclusions without the benefit of all the information. We do not have it and often it is not to be had. This occurs equally in everyday life and in science. So we have tried in our curriculum efforts to get the students to learn the art of guessing, and early. The art of guessing comprises tricks and techniques of non-rigorous proof. In mathematics this is all dignified by the name "heuristics." There are good ways of guessing until you find out whether it is worth computing. It is like life, or history. When someone begins with the view that World War I was started by munitions makers, you want to give him enough heuristic technique to ask himself, "Is it reasonable to stop here or should I keep looking?" We do this in choosing wives and husbands. Why not trust it in less critical decisions?

Intuition is not merely a luxury of those in the aesthetic realm, it is a general armament of problem-solving. Might ETV present some fine models of great intuiters at work? There are plenty of them and they are our most engaging and talented colleagues.

To get a good learning, as everybody has said for a millenium, you need a competency model. A competency model is somebody learning something -- somebody in the act of learning who gives you some idea of what it is like, though not necessarily showing you how to do it. The Physical Science Study Committee films present a genuine physicist doing a real experiment to give the students an appreciation of the subject. Watching such a competency model at work is one way to make knowledge come alive. For this, television is almost without peer.

What will happen to educational television? Most of its weaknesses, except those of youth, exist because we have neglected its potential and failed to exploit it to its fullest. Most of the other weaknesses arise because the medium aspires to self-sufficiency -- failing to join skillfully with other media and techniques. For the future of ETV, the greatest mistake could be to put it to work sanctifying the traditional. Simply filming lectures, panels or seminars ties television to all the blarney of the old academic techniques. ETV needs invention as the school needs invention. Felicitously discovered, television can then serve as the quality control for the entire educational system, building and maintaining taste to a level never before imagined.

Community Broadcasting

A goal for educational television.[10] The first step toward solving the awesome problems of our times is to understand them. Without broad public understanding, the threats to world peace will not be lessened, the facts of proliferating population will not be faced, the requirements of education will not be satisfied, the congestion of our cities will intensify, the moral standards of our lives will not be strengthened, the defenses against our enemies will not remain strong.

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[10] Excerpted from an unpublished paper by Hartford N. Gunn, Jr.

Newspapers and magazines are no longer the major sources of news, television now dominates in that area. It is therefore important for a civilized nation to know what it should demand of such a vital service.

The most significant study to date of what television should be is contained in the Report of the Committee on Broadcasting (generally referred to as the Pilkington Committee after its chairman) submitted to Parliament in June, 1962.

Although its recommendations pertain to British broadcasting, its insights into the purpose, control, and effect of television are relevant to the United States.

Speaking of the purposes of broadcasting, the Pilkington Committee says this:

> It will have far-reaching effects, and it must be the working assumption that television in particular will be a potent factor influencing the values and moral standards of our society. It is essential that there be presented 'the widest possible range of subject matter, treating as much as possible of the whole scope of and variety of human awareness and experience.' To do so, the broadcasters must not only reflect society; they must pick out and focus attention on that which is significant -- the best because it is the best; the worst so that we shall know it for what it is; the new and the challenging, because individual listeners and viewers should not be denied the opportunity of responding to them, and of judging them. At the same time, the broadcasters must care about public tastes and attitudes in all their variety in all kinds of programs -- in those designed to amuse and relax no less than in those that are demanding; they must keep aware of them as they now are and of their capacity to change and develop.

The Pilkington Report proposes a broadcasting philosophy with guidelines to program priorities for a national television service consonant with national and world needs:

1. Programs that provide enough information and interpretation of international and national events to accommodate needs of the citizenry.
2. Programs that enable the public to understand local and regional affairs.
3. Programming for cultural advancement -- music, drama, art, poetry.
4. Programming for youth, especially young children.
5. Formal academic instruction with or without credit.
6. Special services to specialized groups, e.g. doctors, nurses, job retraining.
7. Passive entertainment.

Several means to achieve these goals exist: improvement of commercial television, establishing a public broadcast authority modeled after the BBC, instituting pay television, strengthening educational television. Of the four, the last has the greatest probability of success. The various proposals for reform of the commercial system, from regulation of advertising to strengthening of the FCC do not change the fundamental fact that it is operated for profit and hence sensitive to the interests of advertisers, whose concern is not the content of the program, but the number of persons viewing. Further, Congress has been extremely sensitive to suggestions regarding FCC regulation of program content. The public authority could work but the task of obtaining legislative approval is Herculean. The fundamental interests of the sponsors of pay-television would be box-office rather than public service, reversing the order of program priorities just listed. Also, the pay factor would inhibit exposure to new and different programs.

ETV has succeeded in establishing itself. Despite working handicaps, it now possesses a nucleus of trained personnel, has access to a storehouse of programs in connection with universities and cultural institutions, has demonstrated flexibility and skill in programming. Programs such as "Prospects of Mankind," "Epitaph for Jim Crow," "Decisions," "Louis Lyons," "Age of Kings," "NET Drama Festival," "Friendly Giant," "Parlons Français," and "Exploring Nature" attest to its program capabilities. It still suffers from shortage of program materials, inadequate quality, and poorly balanced schedules. Shortage of funds, staff, and facilities hamper stations. But too narrow a philosophy regarding ETV's social role and its inability to distribute the best of programming by network are equally serious handicaps.

If the program goals set forth are justifiable and ETV is the instrument for achieving them, then an institutional arrangement is necessary to bring them into being. Individual stations cannot achieve these goals without a structure that provides program resources. Four institutions appear necessary to achieve these goals; certain existing ones provide a basis for the framework to be developed.

1. National Educational Television would provide a national program service of distinction over a network linking all the ETV stations on a live continuous basis -- independent in character and centrally administered by a private board of trustees. Its programs would be produced primarily through production centers established at a number of the best-situated ETV stations. Programs will also be acquired and exchanged by NET with broadcasting systems around the world.

The live, full-time, interconnected network has the advantage over the alternate system of unplanned library services, mailed tape distribution, or overnight off-hour transmission by AT&T commercial network with recording at local station, in several key features. These are timeliness, immediacy of coverage and interpretation in critical times, e.g. the Cuban crisis, adequate reportorial coverage and advanced program techniques. More important, the system forces local program decision-making. Instead of being concerned about having a sufficient number of programs, active program selection will be necessary. Quantity and quality of programming would improve. The disadvantages of centralized control can be offset by spreading production of NET programs over eight to ten station production centers, thereby strengthening local stations as well as providing access to greater range of program sources; by strengthening of regional networks; by making network membership optional; and by permitting no network option time.

The center would also provide research, promotion, utilization and underwriting to increase the amount and effectiveness of the program service. Essentially National Educational Television would become concerned almost exclusively with national and international affairs, cultural and children's programming for the nation's ETV stations. Instructional programs would be turned over to the National Instructional Television Library and technical operations to the Educational Broadcasting Board, both described below. It would be independent, free of local pressures, having access to the range of national and international resources. With courage and purposefulness, it could bring to broadcasting depth of coverage of crucial issues rarely touched at present.

2. Regional Networks are the voluntary incorporation of groups of ETV stations into independent, non-profit corporations, controlled and underwritten by member stations for the purpose of pooling and distributing among its members the program resources of the participating stations. Regional

networks increase the diversity of programming by permitting greater expression and utilization of regional resources; provide greater responsiveness and service to diverse geographic areas; permit pooling of program resources and cooperative planning; provide protection to member stations from local pressures on program content because of distributed responsibility for origin of programs where distribution is accomplished by the essential live interconnection.

Most important, the regional networks provide the stimulus of competition of region vs. region, and regions vs. NET, reducing stagnation of ideas and monopoly in programs.

3. A National Instructional Television Library would carry forward the present pilot project, but be an independent agency governed by a separate board of educators and broadcasters.

It would be responsible for the acquisition, through purchase or contracted production, of instructional programs and related materials, and for storage and distribution of such programs. A well-run library would provide the schools with a flexible source of high-quality instructional programs and associated materials, and by the example of the programs it made available, it would markedly influence the standards of instructional programs in use.

It would provide an additional service of research and evaluation, and dissemination of information regarding new educational media. In this function it would work in liaison with other educational organizations.

Fees from rentals and outright sales could permit the library to be self-supporting, once the initial program acquisition was completed, or at worst operate at a small deficit.

4. The Educational Broadcasting Board would be a multi-service, non-profit corporation located in Washington, D. C., having a board representing NET, two regional networks, the NITL, foundations, education and the public. The functions of the EBB fall into three broad categories: (a) furnishing and operating the ETV interconnection system on behalf of regional and national networks; (b) supplying general services for the development and advancement of ETV stations and networks; (c) making grants for the improvement of regional and local programs.

The essential purpose of the EBB is to place control of the television network system in the hands of a neutral body which has the responsibility of operating an economical and efficient interconnection system of high quality and allocating use of the facilities. The backbone of the system would be a two-way interconnection between regional production centers, and one-way distribution to stations in the regional networks.

The EBB would be responsible for engineering technical standards and advice, government liaison, operation of film and tape library, and encouragement of regional and local stational development. It would have the further responsibility of international liaison.

The British concept of community broadcasting.[11] As a result of the Pilkington Committee Report, the BBC was called upon to produce a definition of educational programs for adults which would be satisfactory to commercial broadcasting companies, to the BBC, and to the Ministry of Education. What was finally agreed upon was: Educational programs for

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[11] Taken from the address of Leonard Miall, Assistant Controller, Program Services, BBC-TV, to the Conference on the Economics of Educational Television, Brandeis University, May 24, 1963.

TABLE 9 Cost Estimates for Providing a National Educational Television Service*

	ESTIMATES IN MILLIONS OF DOLLARS	
	Annual	Capital-Initial
National Educational Television		
TV Programming	$20.	
Services (utilization, publicity, research, underwriting)	1.	
Station Production Centers		$20.
Library Distribution Costs (payable to EBB)	1.	
Total	$22.	$20.
Regional Networks (variable)		
National Instructional Television Library (deficit after users fees)		
Library Administration and Research	$ .25	
Share of Library Operation by EBB	.5	
Instructional Program Production	.8	
Instructional Program Acquisition	.5	
Total	$ 2.05	
Educational Broadcasting Board		
Network Operations		
by Lease	$ 6.	$ .5
by Ownership	n.a.	n.a.
Tape and Film Library (NET & NITL)	.5	2.
Engineering Services		
Government liaison	1.5	
Regional and station development		1.
Regional Network Program Grants	3.	
Local Program Grants	1.	
General Expenses and Admin.	.5	
Total	$12.5	$ 3.5
Grand Total	$36.55+	$23.5+

*The purpose of this table is to reflect order of magnitude of costs.

adults are programs arranged in series, and planned in consultation with appropriate educational bodies, to help viewers towards the progressive mastery of some skill or body of knowledge. In planning programs to satisfy this definition, the BBC aimed at keeping five types of programs going at any one time. One strand is a series of programs which can claim real academic weight using specialized resources to enrich normal curricular work, such as the series of programs from one of the atomic energy establishments to supplement a university course in physics. The success of such programs can be measured by their reputation in academic circles. A second strand is a series of programs designed to satisfy known national or public needs, such as improved teaching of mathematics. A third strand is programs having large popular appeal and usefulness, such as languages for tourists. Fourth is a series to enrich personal life by enlarging understanding in a systematic way. Finally are programs which teach specific skills.

In addition to such specifically educational programs are those of a broadly educative nature, such as the Shakespearean series, "The Age of Kings," or the mixture of sophisticated satire and political irreverence seen in "That Was the Week That Was," which occupy about a third of the prime time program schedule. This kind of mixed broadcasting received an encouraging vote of confidence, not only from the 50% share of the British audience which follows it, but also from the independent Pilkington Committee which asked BBC to go beyond its competitive efforts to offer the audience planned alternatives in choice of programs through a third network.

The success in building and holding huge audiences for public programs has led to a decision to experiment, rather than permit a detachment of educational programs from the mainstream of television development. As a start some kind of centerpiece will be scheduled for each evening's entertainment on the third channel, intended to yield for some substantial section of the BBC audience, a program to be relished in depth. This may be a major drama or musical, an evening of light entertainment such as professional boxing or show-jumping, and a major science program. The need for a wholly instructional service will be judged carefully, but with a budget provided by monthly subscriptions of a dollar for each TV set. The BBC feels it essential to develop a program schedule which serves the public interest.

Determining the public interest in the United States.[12] In the great debate on ratings two extreme schools of thought have emerged. In the commercial world, servitude to rating is justified by the cliché that the public should get what it wants. In educational circles indifference to the mass audience is justified by the notion that certain things ought to be done regardless of how many are watching.

Yet educational television cannot disregard the size of its audience. Channels are limited; they are a scarce resource. To use a channel to provide for a small segment of the viewing public deprives others of a chance to see what they want. For this reason alone, TV cannot be a narrow-interest medium. Certainly TV should not be programmed for a truly elite audience, the top 2-3 percent, for no matter what is done by way of programming it will not draw them. This simple fact results from the diverse interests of this group and their active participation in a wide number of community activities which forbids their conforming either to given program schedules or passive viewing.

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[12] Ithiel deSola Pool. Measuring the Audience for Educational Television. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

Curiously enough, these arguments that ETV should be concerned about the numbers of its viewers are rejected not only by the more Puritan educational broadcasters, but also by commercial broadcasters who strongly support ETV provided it will follow a policy very different from their own. Commercial broadcasters are to be congratulated for the extraordinary support they have given to their ETV competitors. In many cities they donate free advertising to fund appeals for the ETV stations in their city. They have generously lent equipment, films, and other kinds of technical assistance. Yet ETV makes a useful contribution to commercial broadcasters. As long as it provides "good" programs, there is likely to be less pressure from the intelligentsia to compel commercial television to offer different fare than they currently provide. (Machlup discloses that more network broadcasting time -- 15 percent -- was allocated to commercial advertisements than to intellectual type programs -- 10 percent -- which included general drama, documentaries, interviews, and news.)[13] Secondly, ETV occupies one of the scarce channels and broadcasts programs which attract a maximum of one or two percent of the audience, giving the CTV stations a larger pie to divide among themselves. ETV will only find itself at odds with CTV if it shows promise of success.

Yet ETV can scarcely hope to win a majority of sets in use. Recent surveys[14] of the ETV audience have shown that the best-managed and the best-programmed stations which strive by a cultural as distinct from an

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13. F. Machlup. The Production and Distribution of Knowledge in the United States. New Jersey: Princeton University Press, 1963, p. 257.

14. Gary A. Steiner. The People Look at Television. New York: Knopf, 1963.

instructional emphasis to recruit the largest audience possible, are able to recruit about one-fifth to one-quarter of a metropolitan population, though only 1-10 percent watch any particular show.

The question of how much potential room for growth there is in the ETV audience was a central problem in a recent study of the audience of WGBH-TV.[15] The basic conclusion was that people who watch ETV are so much more educated, so much more alert, so very different in so many ways from non-viewers that one could win the non-viewers only by offering a very different kind of program to them.

An educational station would be justified in programming for this alert, intelligent top one-fifth since it is a large enough minority, and one which is least well satisfied with CTV. In such a case the numbers test for ETV would be how much of the time this minority finds what it likes on ETV.

In any case, the present servility to ratings is a disaster for American television, for ratings measure the wrong thing for everybody but the advertiser. The criterion of success in television for anyone except the advertiser, who wants to grab on to the maximum viewership at whatever moment his spot comes on, is the intensity of experience with which it has filled the life of its viewers. What we want to know is not how many minutes the viewer was slumped in front of his set, but how much stimulation resulted from a program seen. And even though accurate, the statistics on the number of sets provide little knowledge about how intensely how many viewers were watching. Unfortunately, we know all too little about the ETV audience. Even those who enjoy ETV, and there were over 200,000 of them in a four-week period watching WGBH, spend more time in the passive watching of commercial television. Ironically, though they watch it more, they find commercial television more boring than ETV. ETV is deliberately chosen while CTV is often watched faut de mieux. Of the present ETV audience, we know it is growing with the rising level of education in the population. It may also grow with habituation and improvement of quality. It is growing by virtue of the increase in the number of ETV stations. But without periodic studies, ETV station managers will be groping in the dark.

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[15] Schramm, Lyle and Pool (see footnote 1, page 56).

A few ETV station managers with only minimal guidance have managed to capture the loyalty of more than a fifth of their public. But others have as few as 3 percent. Whatever they broadcast is justified, only if someone wants to view it. The audience does matter. ETV must know who its audience is and what it wants.

Research on such matters should be supported by the Federal Communications Commission. It has not done so in the past and if present prejudices prevail it will not in the future. The television industry, the Congress, and the FCC itself, all have made a gigantic taboo out of the basically sound notion that the FCC does not regulate content. A desirable inhibition has been blown up into a shibboleth that denies the Commission information needed for effective functioning. The presumption is made that if the FCC even thinks about program content, if it finances research on it, if it disseminates information about it, stimulates discussion on it, or admits that it is a problem worthy of concern, it will turn into a censoring agency. One is reminded of earlier discussion of the destruction of private enterprise if income taxes, social security, or labor legislation became law. They have occurred, yet private enterprise was never stronger. Information is essential to decision-making at all levels. The Department of Agriculture does research for farmers. The Bureau of Standards of the Department of Commerce is a great help to industry. Research, short of regulation, is a normal public function. It can properly enable government to facilitate the solution of problems without infringing upon the essential freedom of pluralistic institutions.

Community Needs in Educational Television*

by Anita L. Martin

The nature and characteristics of the community: Metropolis. Metropolis is a half moon curving toward the seas, and stretching to other metropolises, to woods, to farms, to mountains, to villages involving within its 30-mile radius the living activities of three million people. The central city is a hub of commerce, an established financial center, a mecca of shopping and entertainment, a home of big league sports events, a medical center of the world, the heart of the region's transportation and distribution center.

It is ringed by the Golden Semicircle, a 65-mile superhighway radiating about 12 miles from downtown. Along the 65 miles are more than 400 firms, largely in fields of electronics, research and light industry, which have all sprung up in the last 15 years. Three major shopping centers are in operation; a fourth is on the drawing boards. This complex alone has brought new and tremendous training needs and educational problems to Metropolis: the women in the suburbs have to be trained for part-time work in clerical and sales fields; the highly technical workers need constant education to even keep up in their fields; many wives find that their high school course in general sciences does not equip them for even party conversation.

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*Anita Martin. Community Needs in Educational Television. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

Roughly within the limits of the Golden Semicircle (which is not the same as the Standard Metropolitan Statistical Area or the popular definition of "Greater Boston," there are:

2,500,000	people: the seventh largest metropolitan area
560,000	members of labor unions
26,000	engineers
76	cities and towns
987	square miles
272	bank offices
110	hospitals
73	home offices of insurance companies
40	museums
6,000	physicians and surgeons
46	major historical sites
57	colleges and universities
16	commercial radio stations
7	education and music FM stations
3	commercial television stations (plus one inactive UHF)
1	educational television station
3	major daily newspapers, plus the Christian Science Monitor
50	local or area newspapers
20,000	trained researchers
7,000	natural scientists
11	major university libraries
684	scientific societies
64,089	educators
3,649	employees of non-profit membership organizations
9,893	employees in religious and welfare services
1,007	employees in radio and television broadcasting
3	medical schools, with faculties of over 2,200
2	of the 7 world's largest I.B.M. computers
70	public libraries
1,582	dentists
4,876	adult education different subject requests at one agency alone in 1962

In human terms, the statistics of the Standard Metropolitan Statistical Area reveal many of the strengths and problems of Metropolis. In round figures we are talking about an area of two and one-half million people of whom one-eighth are foreign born, 3.5 percent non-white, and nearly half of foreign stock. At least 10 percent of them move each year, even as the total population increases toward an expected three million people in the immediate area by 1970, and perhaps 3,750,000 people in the extended metropolitan area. Here are some of the dimensions of cultural change.

The figures suggest sources of major community problems for which few people are academically prepared. Cultural conflict occurs from one section of town to another. The mobility of people means new opportunities; it also means for the majority a period of loneliness, of isolation from the community around them.

The family pattern has changed drastically. We have fewer three-generation families. Nearly 30 percent of the families have children under six; in these families, 20 percent of the wives work. Immediately we have a potential audience from the 280,000 pre-schoolers who are home most of the day, and from their mothers. And, of course, all the families are potential audiences for programs in family living and household management.

At the other end of the scale are about 280,000 people 65 years old and over. They too have time during the day; many are unable to get out easily. Many have never seen the New Metropolis or the Freedom Trail, Wayside Inn, Plimoth Plantation. Many of them are among the 30,000 nursing home population. Others seek knowledge leading to volunteer jobs.

Among the adults, about 6 percent have not gone beyond fourth grade, while 9 percent have attended graduate school. The median education is 12.1 years, yet nearly half of the men and 45 percent of the women have not completed high school. The whole scale of education programs is indicated for adult education, from fundamental literacy to graduate refreshers.

The economic range is equally great. Eleven percent of the families have less than $3,000 per year income; 21 percent have over $10,000 per year. How do you use most effectively what you have?

The houses in the various communities and districts range from 4 percent to 80 percent substandard. While the vast majority of houses are sound, Metropolis is an old community. How do you keep out winter drafts?

How do you put in insulation? How do you repair plumbing . . . or should you call a plumber? If you are in a new house, what do you do about hairline plaster cracks or landscaping?

In each characteristic mentioned thus far, the spread of the statistics has been large. The most hard-headed comparative analysis of Metropolis needs is contained in the RIG (Recreation, Informal Education and Group Work Division of United Community Services) study, Profile for Planning.[16] A team developed and carried through a research design which included "selected population and social characteristics factors, based on 38 social planning segments of approximately 55,000 population each" and on "community needs and resources for each segment."[17]

Based on 1960 U. S. Census figures, the study included "all types of non-profit organized programs and leisure-time services, whether under the auspices of governmental bodies or voluntary agencies."[18] The quality of existing services was evaluated for both private and public agencies in terms of leadership, program, participation, facilities and finances. Of the 38 segments of approximately 55,000 people each,

20 segments had 25 percent or more people with less than eighth-grade education,
28 segments had 10 percent or more of the population over 65,
19 gained in population, ranging from 0.5-96.4 percent gain,
19 lost in population, ranging from 1.7-36.2 percent loss,
.. the youth population (7-17) ranged from 2,337 to 17,769,
.. the family income under $5,000 ranged from 12-66 percent,
.. the amount of sound housing ranged from 20-96 percent,
.. the proportion of Negroes ranged from 0.06-48 percent,
.. the proportion of those 65 and over ranged from 7-17 percent.

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16. Profile for Planning. An Approach to Measuring the Need for Leisure-Time Services in Metropolitan Boston. United Community Services of Metropolitan Boston, RIG Division. Boston, 1962.

17. Ibid., enclosed descriptive folder.

18. Ibid., p. 3.

The areas of highest need had over three times the needs of the areas of least need; the areas providing the most services were providing almost three times more than those providing the least service.

In Metropolis 65 percent of the people are adults. They have one educational television channel which operates only on weekday evenings, on a general broadcast basis, and part-time Saturday and Sunday. Only 25 percent of the population are school-age children, yet they have not only the public schools, but also daytime in-school educational television. Are adult needs for channels less important than the children's?

In 87 percent of the homes in Metropolis there is at least one television set. We know that most people learn best visually. What could television do, better than radio or newspapers, with

inter-cultural understanding
child care knowledge and insight
community orientation
language and culture
home care and maintenance
volunteer training
job training
literacy training
fundamental education
graduate refreshers

to mention only a few areas? People need help.

How well are the resources of Metropolis -- especially the mass media -- being applied to the basic problems of the people? The newspapers of Metropolis are commercial, competitive, usually partisan, and numerous. They can alarm, they can alert, they can increase insight and knowledge once awareness and interest have been roused; they can do relatively little to develop a sustained pattern which will lead to individual involvement and action. Their patchwork circulation alone would defeat this.

Radio, when it wishes, has much more impact than newspapers. One of the recent phenomena in Metropolis is the spurt in serious radio listening as many stations offer daily intensive treatment of vital issues, sometimes running two to three hours at a time, with opportunity for telephone discussion with the expert. The ease of feedback and questioning makes radio ideal for exploration of ideas and information in which visual learning is secondary. To which of the basic problems can . . . and does . . . television apply itself? Is the present CTV-ETV pattern using available resources and meeting the needs of the community?

The nature, needs and resources of the organizational life of the community in relation to television. The voluntary agencies and civic organizations are the lifeblood of and give quality to the democratic community. Through them the social dimensions of the individual in the world beyond his immediate family are developed; through them the individual's needs are met in countless areas of daily living; and through them the quality of the community is developed. It is no accident that public programs begin in the minds and hearts of a group of inspired, creative volunteers. Our way of life is as good as our voluntary institutions and its leadership.

Today activity and concern are not enough. Specialization and the increase of knowledge demands more education from that volunteer and the staff worker. The monstrous complexity of Metropolis makes the exchange of information very difficult. Of the hard-to-document problems, anomie is probably paramount: the feeling of helplessness leading citizens to withdraw from confused problems of mass transportation, racial struggles and dirty politics. These citizens may well be victims of the saying, "In Metropolis you're not killed: you're clubbed to death." There are more than enough organizations. Their problems are of effective communication and organization. One of their problems is how to reach those with no group affiliations; another, how to help individuals from over-extending themselves. But most of their problems are in areas of informing those who need it, of leadership training, of relating resources to needs.

The Bronson Report referred to the role of educational television in meeting "the broad needs of our town and cities."[19] However, it reported only the needs expressed by the formal educational system of colleges and universities, public schools, and state departments of education. This is an important beginning. But nowhere are the needs of the voluntary agencies and civic organizations inventoried nor are their assets considered as a resource for educational television programming. In many problem areas they have the best educational resources in the community.

The Report does note that the communities and their leaders in at least 30 states indicated active concern for educational television as a resource for meeting the informal community educational needs.

To inventory the organizations in Metropolis is well nigh impossible. Conservative estimates run to 13,000 or more, with over 600,000 active leaders. We can consider three aspects of organizational life in Metropolis:

A. 80 state-wide organizations concerned with adult education, almost all with headquarters in Metropolis and with countless local units.

B. 352 social, health and welfare organizations of Metropolis which are members of United Community Services, the central planning and coordinating agency.

C. 42 organizations active in a specific field in Metropolis: civil rights.

This approach leaves out, almost completely, consideration of the needs and resources of churches, which probably offer more informal education

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[19] Vernon Bronson (dir.). The Needs of Education for Television Channel Allocations. A Survey by the National Association of Educational Broadcasters. U. S. Department of Health, Education, and Welfare, Office of Education: Washington, D. C., 1962, p. 1.

programs than any other single type of institution;[20] the labor unions; the trade organizations, among others. Nevertheless even the three segments of organizational life selected present a staggering complex of goals, activities, problems and resources.

State-wide organizations. In 1960 the Adult Education Association in Massachusetts, Inc. published the first Directory of State Organizations (including Regional Organizations Serving the State).[21] The Directory, compiled by volunteers from questionnaires returned by 80 organizations, is not inclusive. Notably absent are the service organizations such as Kiwanis and Lions, the mass media organizations, and the trade organizations. Perhaps they did not consider themselves as having an adult education role. Nevertheless, the areas of concern and, in most cases, of resources, are impressive. The fields of interest for 80 organizations concerned with adult education were given as follows:

community organization	35
leadership training	35
public affairs/policy	32
in-service, prof. training	25
teacher training	22
civil rights	21
intergroup/interfaith	21
volunteer training	21
health	20
mental health	16
parent and family life	16
socio-economic	16
international	14

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20. John W. C. Johnstone. Volunteers for Learning. A Study of the Educational Pursuits of American Adults. National Opinion Research Center, Illinois: University of Chicago, Report No. 89, February 1963.

21. Adult Education Association in Massachusetts. Directory of State Organizations, including Regional Organizations Serving in the State. A.E.A., Boston, 1960.

labor	14
industrial	13
recreation	13
safety	13
fine arts	11
vocational and technical	11
conservation	10
foreign born	10
medical	10
religious	10
physical education	8
practical arts and crafts	8
public education	7
commercial	6
general academic	6
homemaking	6
political	5
elementary adult	4
legislative	3
camping	2
aging	1
alcoholic beverages	1
building construction	1
business	1
child welfare	1
group work	1
law enforcement	1
natural history	1
penal problems	1
real estate appraisal	1
veterans	1

If these organizations achieved their goals, most of Metropolis' problems would vanish. We would be well-educated, healthy, cultured, physically fit, spiritually developed, successful in our jobs, effective in working with groups to solve community problems, and so forth. Yet not one organization feels it is succeeding as it might.

An overview of the variety of techniques already in use among the organizations listed in the Directory shows great programming potential. To achieve their goals, 53 organizations do research, 65 provide resource information and materials for others, and 67 conduct training programs. Specific methods used were reported by 72 organizations. Two others said they used all primary methods and materials. The primary methods and materials reported were:

clinics and worships	48
informal informational meetings	45
content materials (texts, pamphlets)	37
forums/panels/debates	37
films, filmstrips	33
lectures, classes	25
television programs	25
radio programs	23
discussion guides	20
technique guides	19
evaluation materials	15
demonstration	14
records, tapes	13
bibliographies	8
mounted pictures, models	8
tests	6
tours, field trips	6
other	5
home study/correspondence course	3

In addition, almost all reported using correspondence, personal contact and conferences; 51 published a regular newsletter; 37 published a magazine; 42 held conventions.

Know-how from each of these educational approaches could well be utilized on television. To find out how the organizations did use television, each of those reporting its use was asked eight questions. The replies are not directly comparable; most respondents wrote essays rather than simply answering the questions. Trends are evident, however, among the 17 that replied before the deadline:

Present Uses:
11 present information
5 use media for publicity
5 participate in special programs
6 produce live; 6 use film; 4 use slides; 2 use tape. 3 had had time on ETV; 6 have bought time on CTV; the rest use public service time.

Needs Met: Few needs were met: one cited receiving emergency publicity as needed for such things as alerting the public to the need for polio shots and drinks; one found help in reaching a new audience; one found television a good means of kicking off public issues.

Needs Not Met:	The primary unmet need was for regular, informational programming. Two organizations cited a need for creative programming by producers and others implied it. Two had unmet training needs. Publicity was cited by one.
Staff:	Three organizations reported part-time personnel concerned with television programming; two had one full-time person who had other duties; the rest reported no staff.
Budget:	One organization reported a $966 expenditure for television last year; one reported television as using a share of a mass media budget which totalled $5,000-10,000 annually. The others had no budget, but occasionally squeezed money from another budget.

The biggest problem was opportunity. With neither budget nor staff to either buy time or enlist professionals to help prepare programs, the organizations have no access to television. Even the two who had considerable experience with CTV reported the lack of creative programming and help in preparation as major problems. They are tired of the same old panel discussion. Their experience with a wide variety of educational methods makes them suspect there are better ways of programming such content, but their inadequacy in television production leaves them in doubt. The major possibility of using television to meet current community needs is in making available current resource material and informed personnel. Individual organizations also specify that they both need and could contribute to leadership training and special training programs, documentaries, and special news and features.

The overall picture is one of frustration:

Massachusetts Association for Mental Health, Director of Public Relations: "there is little opportunity for creative television programming . . . for two reasons, (1) opportunities on commercial stations are extremely limited and (2) there are so many restrictions imposed on Channel 2 (ETV) that it is virtually impossible to present anything but a series planned in cooperation with a member of the Lowell Broadcasting Institute . . . It is obvious that educational projects will continue to be pushed into the background by the pressure for commercial programming . . . An unfortunate result of delegating nearly all educational television to Channel 2 is the extremely limited audience that one reaches. For example, the Junior League, in an attempt to reach the general public, produced a film on emotionally disturbed children. This film was shown on Channel 2. However, instead of reaching a broad public, it is safe to assume that the film was seen by a sophisticated audience, probably those least in need of information or education about the subject. My suggestion for righting this situation would be to have the federal government insist upon all stations allocating 20 or 25 percent of their time and staff to educational purposes."

Associated Industries of Massachusetts, Director of Public Relations: "As a non-profit association with a relatively low budget, we have found it necessary to make exclusive use of news and other public service time in communicating with the public through television . . . We feel that the stations are aware that there is a need for all community segments to be heard on issues, and they have carried out this responsibility meaningfully . . . it remains apparent that the need for the commercial television to schedule sponsored programs -- thus limiting their ability to present programs aimed at increasing understanding of our economy and the other institutions that form the foundations for our lives -- has served to slow the pace of needed understanding."

Massachusetts Audubon Society, Director of Education: "My major wish at present is that there be more opportunities for guidance and assistance in the preparation of shows by groups wishing to do a show or shows but lacking the technical people on their staffs or the funds for the highly skilled professional help."

Massachusetts Tuberculosis and Health League, Executive Director: "Most of our effort has been in the area of short spot announcements never exceeding one minute. Since longer time segments on sustaining programs have not been available to us we have not pursued this form of programming on television. (n.b.: TB incidence and death rate are a standard criteria of community goodness. The segments of Metropolis range from 22 to 500 new cases per year per 100,000 people, with the annual death rate from 0 to 500 cases per year per 100,000 people -- A.L.M.) . . . Educational time has not been available to us on the educational channel in this state because programming in this manner usually requires a grant to defray the costs . . . Commercial time utilizes most of the available television opportunities and leaves a limited amount of time for non-profit agencies. There are many voluntary health agencies seeking this time and these organizations are competing for a relatively small amount of public service programming . . . Television is a powerful medium and it can do an effective job in reaching a good segment of the population with vital health information . . . If middle-ground television was available, we would certainly plan and develop television programming which would fit into this category. Television stations could help by giving consultation, providing for use of their equipment, and allocating segments of time sufficient to do the job . . . There are a number of strictly commercial stations and one educational station. Now is the time for middle-ground television -- an opportunity for an organization such as ours to get its share of TV time for a worthwhile purpose. If a community is truly to be served by television, then middle-ground television is a necessary component of the total."

Included are suggestions from the organizations for community uses of television.

- ...training community leaders in community development
- ...volunteer training; "Help Wanted" spots for volunteers
- ...citizenship development through participation in study groups with television presenting the problem
- ...daytime programs for housewives, aging, handicapped, preschoolers
- ...public health information
- ...afternoon children's programs
- ...facts of urban renewal; dealing with change
- ...preventive mental health
- ...Army Reserve; Naval Reserve; Power Squadron courses
- ...library instruction . . . how to use the library . . . people come in totally unprepared
- ...social work: drop-outs, tutorials
- ...weekly sessions to bring various fields up to date in new research and activities

We are certainly not beginning to use the resources of state organizations in meeting community needs. Access again is the key problem.

United Community Services. As the planning and coordinating agency of health, social and welfare agencies of Metropolis, UCS has 352 members; about 200 participate in financing and planning. Analysis of the member agencies of UCS gives only a partial picture of their range of services, resources and field of interest. A great move toward efficiency in recent years has meant consolidation of agencies; grouping of local agencies in a regional headquarters; and federation of a range of agencies within a neighborhood. The following list therefore refers only to the single primary field of each unit, whether receiving funds from UCS or acting only as a planning member: The 352 agencies include

48 hospitals
44 social service agencies, councils and coordinating groups
43 youth organizations
37 nursing organizations (chiefly visiting nurses)
33 settlement and neighborhood houses
24 family service agencies

20 educational organizations
20 rehabilitation agencies (physical, deaf, blind, etc.)
17 children's agencies (adoption, S.P.C.C., etc.)
16 Y's (YMCA, YWCA, YMHA, YMCU)
11 guidance, counselling and mental health centers
9 services for the aged
6 art centers (art, music, dance)
5 camping agencies
4 legal aid and prisoner's aid
4 social health
3 alcoholism
2 intergroup relations
2 immigrants

Statistics do lie: the largest hospitals probably work in every one of the above areas, yet they are only listed once under "hospitals." The American Red Cross works in many fields; one settlement house may refer to a federation of eight separate institutions. On the other hand, some vital specialized community needs are met by small agencies. The Guild for the Hard of Hearing helps people try out and select hearing aids; it provides extensive referral service; it teaches lip reading to those with no other available program. Where else can a businessman who is losing his hearing go for expert guidance? How many people know of any service other than that of the commercial hearing aid salesmen? Courses and information could be offered by every one of these agencies.

The most exciting part of UCS work is probably in the special projects. With a major urban renewal program underway, with major highway construction, with a Ford Foundation grant approaching two and one-half million dollars to broad-based inter-agency experiments to meet critical community needs, Metropolis is in the throes of physical as well as human change. Never have so many people had to know so much in so short a time.

Special UCS projects already underway include a Delinquency Control Project, a Public Housing Neighborhood Project, and an Aging Project. Each involves a total-community approach. A major problem is how to inform and involve the total community. Could suburbanites be interested in pairing with an underprivileged family to share interests and values, to explore the broader community together?

The Volunteer Service Bureau of UCS lists over 200 specific kinds of jobs in 48 categories in just 45 of the agencies! How can the needed thousands of volunteers be recruited and trained? Could the career approach to volunteer work be developed through television: helping young people and women planning to re-enter the job market consider volunteer service as pre-career tryout time?

UCS leaders see a role for television in all the areas suggested by state organizations. Their main plea is for creative programming. They would like a first-rate remote television crew, covering the pulsing heart of Metropolis. They would like producers with more background in education, the social sciences, the arts. Most of all, they see television as a way of reaching and involving people. Television is good at creating interest and helping to shape new values and concepts. Agencies are now ready and willing to conduct programs in fields such as

sports: tennis, swimming, volley ball, squash, fencing
physical fitness
public health
venereal disease
nutrition
children's theatre
arts and crafts
urban renewal: procedure, relocation, issues
prenatal and postnatal care
budgeting
home nursing
psychodrama
community development
activities for the handicapped and aging.

The needs and resources are there. Where are the available channels?

Civil rights organizations. The civil rights field represents a typically complex need. At present Metropolis is faced with allegations and counter-allegations of de facto segregation in the public schools, of police brutality, of crime, of welfare problems all reflecting the throes of inter-racial change. Both the Governor of the Commonwealth and the Mayor of the City have brought together the various civil rights organizations. The Mayor's Committee[22] has identified 42 organizations in the central city alone which are working on the problems in Metropolis. Of these, seven themselves have local units and branches; seven others are federations or councils. The Fair Housing Federation has 50 local committees as members. The Jewish Community Council has 28 member organizations; most have member units. The list (and it is not yet complete) includes organizations from labor, religion, public and major intergroup agencies. It also includes all of UCS.

At present the civil rights fight is focused on the Negro. De facto segregation exists because of the housing situation. The housing situation exists more from economic roots than from prejudice. Yet prejudice may be part of the economic root. Only a massive effort can untangle it. The Negro median income in Metropolis of $2,369 against the white median of $3,291 explains the depressed Negroes' housing. Why is the per capita expenditure for textbooks proportionally lower in the Negro schools; in fact, we are not sure this problem is real. No one apparently has the information to reach a valid decision. One year's textbook expenditures may indicate a problem, but they do not prove anything. Perhaps the Negro schools got more for textbooks the year before.

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[22] Mayor's Committee on Minority Housing Problems. Community Organizations Involved in Minority Housing Problems. Private and Public. Boston, May 1963 (mimeo).

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Television is the best medium for clarifying the situation. The textbook question alone is a natural case to use in improving decision-making quality. Show the textbooks; show the schools; show the selection principles.

In Metropolis, as in other urban centers, these questions must be resolved quickly. Television can help people grasp the whole picture. By showing a Negro intern at work, a tutor from India teaching a Negro boy to read, an unemployed family, a descendant of the Revolutionary War free Negroes, different perspectives could emerge.

How can Negroes be trained to hold good jobs? Can their literacy be improved? Can positive values of Negro culture be understood by the white populace? Can Negroes learn to accept whites? Can whites learn to take more initiative in solving the problem? In the meantime, with the assistance of agencies they do not even know exist, can depressed families learn to do better with what they have? Can they improve their health practices?

The organizations described by the Mayor's Committee, have much of the know-how to achieve these things. They have no vehicle except face-to-face contact through existing agencies. In ten years a concerted community effort could resolve the problem if there were in depth access to the victims.

Leaders suggest that the role of television might include documentaries; attitude development programs along the lines of "Dynamics of Leadership,"[23] including series on the process of change, community dynamics and communication: regular features on job opportunities and caree [illegible]lopment; daily hints for better living; family life, home management and child care;

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[23] A. L. Martin. Final Report on Study Groups: Boston University-WGBH Leadership Training Project. Mass.: Boston University, March 1962 (mimeo).

"expanding horizons"; recruitment and training of tutors; police training.

The police training suggestion arises from perhaps the most dramatic access problem in Metropolis. Recent Negro migrants, living for the most part in a ghetto, have no knowledge of the resources available. As a result the entire community suffers. Police are the only individuals with regular opportunity for contact with Negro migrants. They are beseiged by questions and problems they cannot handle; involving health, jobs, social security, housing, delinquency, etc. Though over 400 helping agencies exist in the vicinity, the Negro with problems hasn't the endurance to find the right agency even when he knows it is there. The psychological endurance to expose yourself to a possibly hostile community is hard to develop. If the policeman knew of the existing resources and learned how to communicate with these people overcoming their fears, thousands of people would benefit.

In theory, the plan is simple once the issue of whether "police aren't social workers" is met. But with 6500 police officers in Metropolis, even if enough teachers could be found, the police schedule could not possibly provide training for all of them. Experience has shown that the officers learn best in a discussion situation led by one experienced in police work. Some police leaders and agency personnel see real possibilities in a television series presented at different times each week for a number of weeks. Each precinct house could schedule viewing time for small groups in their own precinct house. At the same time, educators, ministers, social workers and local agency personnel could tune in.

The needs of the voluntary agencies and civic organizations can be summarized in one word: "access." The community needs are too great for face-to-face and mass media methods now being used. The specialized knowledge and process skills available are tremendous, and scarcely tapped. The problems explode faster than they can be met. The agencies have no money, no staff, and almost no available television time to engage the medium in providing access to thousands of involved people on a regular, systematic basis. The situation promises to become more critical: just recently one of the major hospitals announced that it will have to cut back its emergency services. The rapid increase in irrelevant case load is becoming too much of a drain on the hospital. Rather than emergency care, many appearing at Emergency are seeking referral and information help: "My wife is going to leave me. I can feel myself cracking up. You've got to help me." "I can't get a job. I have a feeling I'm going to commit suicide." Already, social workers are talking about using the hospital emergency wards as stations for information and referral centers; people with problems to to the hospital second to going to the police. Such centers would relieve the hospitals. But they would be useless to thousands who never reveal their problems until it is too late.

The whole range of community educational and information needs requires drastic increases in community television service to meet the middle-ground needs.

The foreseeable future of television for community needs. There is no possibility that television can handle the educational and cultural needs of the community in the next few years. Too many organizations, institutions and problems are competing for the limited public service time.

The ETV station already has its course mapped out: hopefully, to acquire another channel and to continue and expand both its in-school program during the day and its community program at night, which appeals to a highly specialized audience. There is no reason to recommend a change of policy for this station; rather, the question is how to meet the needs of other audiences with different interests and different available viewing time.

Two of the three commercial stations are improving the quantity and quality of their public service programming. The public service director of one station discussed, in detail, the problem of knowing which community interests should have priority. In his view, half of the requests for public service time have no television programming value. Others are too vaguely conceived. To help organizations learn what has television value and how to develop it, he held a workshop last spring for representatives of 150 organizations. At the same time he felt sure that the organizations which contacted him were not necessarily those most deserving of time and that programming was not representative of community need and interest.

Another commercial station has been discouraged by the poor response to a series on Metropolis' problems. The reasons have been evident to the educational community since the series began over a year ago: like Baltimore's attempt to develop problem-solving community action through "Focal Point,"[24] there was inadequate advance promotion and involvement of community groups: there was an irregular schedule which itself was changed. The series hit at spot issues, rather than using a developmental approach. It was unsure of itself in handling controversial issues, sometimes taking a strong stand, other times pussyfooting. Such vacillation discourages public confidence. The station has now approached the adult education community for ideas and cooperation; unfortunately, future success may depend more on pre-emptions and personalities than on intentions and plans. Both stations have developed personalities with daily public-service programs which usually operate on a basis of current topical interest and occupy a tiny fraction of the time. Community stations might well pick up a cue from the success of the "personality" show; a personality can lead his audience into hitherto unpopular subjects with ease.

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[24] Reported in meetings and mimeographed papers of the Project on Television for the Improvement of Urban Life, conducted by the National Education Association, Washington, D. C., 1962-1963.

An interesting and perhaps critical situation now hinges on the fate of one commercial station which had its license revoked. Five applicants immediately entered the field. Two applicants believe the Federal Communications Commission should review and revise its television broadcast policy, treating available channels more as a natural resource than as a commercial commodity, to be allocated in terms of community needs rather than for the operator's profit. One applicant proposes a broad-based community program, with some network programming, on a profit basis; the other proposes a broad-based community program, also with some network programming, on a non-profit basis, the profit being returned to community organizations.

This decision could set new precedents. Both applicants have conducted community surveys which support the statements of needs and possibilities found in this study. The survey of one applicant[25] included interviews with 175 community leaders and telephone interviews at random with 600 individuals. Generally, the leaders felt more need for adult education and community programming than did the general public telephoned. Among the leaders, 83 percent wanted more coverage of local issues, 80 percent more coverage of national and international issues, 68 percent more news in depth. About 40 percent of those telephoned wanted each of these three items increased. One seldom mentioned area of need was revealed by

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25. Charles River Civic Television, Inc. Survey Analysis. Waltham, Mass., April 1963 (mimeo).

the 48 percent of those telephoned who wanted more religious programming and 55 percent who wanted basic discussion of moral and religious questions. The number of respondents who expressed needs, who had available resources, and who had specific ideas and insights was high enough so that the applicant felt the concept of non-profit commercial programming would be well supported in the community.

Even if one of the commercial stations does become more community minded, it is doubtful whether available channels could meet community needs. People suggesting strongly differentiated station programming felt that the community could easily use the higher intellectual approach of the educational channel; a channel concerned with common-garden problems of daily living; a training channel, and a public affairs channel. Each of these would broadcast individual's and group needs at alternate times.

The import of these suggestions is that television should help to minister to identifiable community needs. To be effective, more channel space will be needed. This, however, is but a beginning. It is not only the channels but the effective use of them that is important. Such use would undoubtedly require the development of community television councils which will bring together the resource institutions, the action agencies, and the broadcasters for joint planning and development in the adult and out-of-school education and public information areas. The execution of such plans would likely require a television center in Metropolis, staffed by professional broadcasters who understand both education and media and who will therefore plan the programs that would most effectively accommodate the needs of the community.

Television and Adult Education[26]

Television, regarded primarily as a source of entertainment, has been little used in the United States for adult education. It will have to hurdle formidable resistance, create new motivations and patterns of use if it is to have any massive educational impact on American adults. Comparatively little is known about the adult who uses television in an educational context.

From the experience of the past decade, two conclusions of special significance emerge with almost unchallengeable finality:

1. Large-scale use of educational television cannot be financed by fees from the adult student. This is not because he is not an avid learner. A National Opinion Research Center[27] sample estimated that 23 million adults were engaged in some kind of organized educational activity. Yet fewer than 300,000 reported television as the method of study. Telecourses offered primarily for adults attract only limited enrollment. A scanning of the National Compendium[28] indicated only three courses out of several hundred in which the enrollment passes one hundred. This is in contrast to enrollment in the thousands for programs broadcast as part of the curriculum of an elementary or secondary school.

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[26] Condensed from E.I. Johnson. Television and Adult Education Needs. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

[27] J. W. C. Johnstone. Volunteers for Learning. (see footnote 20, page 114.

[28] L. E. McKune. National Compendium of Telecourses. E. Lansing: Michigan State University, 1962 edition.

The typical enrollment for telecourses directed primarily toward adults appeared to be between 10 and 20 persons.[29] In Omaha, the highest paid enrollment for any one of the seven telecourses offered by the College of Adult Education of the University of Omaha in 1961-62 was 23. The highest enrollment in any area in Oregon in a course broadcast state-wide by 18 stations was also 23.

2. Major opportunities for using television in adult education have been largely unexploited, partly because of finance, partly because of the lack of flexibility in adapting sound educational methodology to the medium, and partly because of the lack of adequate mechanisms for relating television and educational resources to a systematic study and improvement of contemporary life.

College adult education units persist in offering telecourses even though the enrollment is limited, because the fees help cover expenses. The adult education division is usually on a different financial basis from other divisions of the university. It is usually expected to be self-supporting, often to return a profit. Informal non-credit classes tend to be comparatively rare. They offer no income and constitute a financial drain. Furthermore, informal television presentations often require reorganization of scholarly knowledge and this is resisted by many instructors for lack of time among other reasons. Two noteworthy exceptions are St. Louis University and Harvard University. St. Louis University offers courses for two hours on Saturday mornings under the general name of "Community Campus." Carrying no academic credit, completion of the twelve courses over a two-year span earns an associate degree from the University. Charging five dollars per registration, "Community Campus" attracted more than 650 registered students the first semester, only 200 by the seventh semester.

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[29] Total viewing audience is much larger than student enrollment. Several surveys indicate total audience ten times or greater than the enrollment.

Harvard University gives academic credit for a degree of Bachelor of Arts in Extension Studies. Registration is through the Boston Commission on University Extension Courses with a fee of ten dollars per quarter course. The University plan is to offer 16 courses, enough to earn the AB degree in Extension Studies. The courses are carried on Boston's community station, WGBH-TV.

An exception to this general problem of restricted enrollments in telecourses occurs where organized groups exist, usually professional.[30] One illustration of successful coordination of resources in in-service teacher education was centered in eastern Massachusetts where 17 communities used the film series, "Audio-Visual Aids in Education," developed at the University of Wisconsin. This cooperative extension course included: the sponsorship of Boston University's School of Education; the administrative services of the University's Division of Continuing Education; and the broadcast facilities of WGBH-TV. Key features of the program involved: coordination between the University and the communities through the local visual aids director, the setting up of laboratory situations consistent with the television broadcasts, and a careful system of evaluating, reporting and grading results of teacher participation so that academic credit could be endorsed by the faculty of the Boston University School of Education.

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[30] The discussion of the role television plays in teacher education is taken from a paper by James Baker. Television and Teacher Education. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

Teacher-education needs. Five particular needs of the teaching profession which may be served through the medium of television are:

1. Classroom observation. Almost all educational principles now presented through lecture and from actual elementary or secondary school classroom demonstration, could be illustrated better with closed-circuit television. Through it, the pre-teaching college student could observe realistic situations in a much wider variety of settings than via the usual one-day or two-day visitation. Descriptions of classroom activities and educational settings are always secondhand, occasionally distorted and theoretical. Through television, the potential teacher could make an objective evaluation of the profession and help decide whether or not teaching is the career for him.

2. Identification of effective practices. Creative practices can be found in almost any school system. Seldom do teachers within a single school observe effective teaching even across the hall. Recognition of creative achievement is too infrequent; precise description almost impossible. A much more effective dissemination of such skills via television could help advance classroom techniques.

3. Research results. The estimated lag of at least twenty-five years between education theory and practice could be sharply reduced through television. Theory developed through university research or action research in a local community is often restricted to the single community or to the research library of the professional institution. The evidence seldom reaches many teachers. Visual evidence of these results could heighten their impact far greater than by printed reports.

4. Demonstration situations. University laboratory schools and other schools conducting experiments are generally observed by few extension course students, parent-teacher members or graduate students involved in the research. Teachers would be better convinced of the validity of certain practices, thus improving activities, if they could observe the demonstration and see the results. Television can provide the opportunity for many teachers to observe these new practices and help them to decide whether to adopt them.

5. Academic content. The speed of advancing knowledge may render the in-service teacher out of touch with developments in his field and with significant connective disciplines. The courses operated by Learning Resources Institute in atomic physics, modern mathematics, and economics, illustrate the potential of television in the revision and revitalization of diverse academic content.

Administrative designs and problems. Successful use of television in teacher-education will not become a reality until more satisfactory solutions are achieved in (1) defining academic credit, in (2) developing more effective means for evaluating student achievement, and (3) in maintaining personal communication between the sponsoring institution and the student or communities involved. Although the present interpretation of academic credit -- mainly the hours one sits in class -- is open to serious question, academic faculties have not yet given the endorsement to behavioral evaluation of student achievement that many educators desire. Evidence that knowledge can be achieved other than by the lecture is frequently interpreted as a threat to vested academic interests. Perhaps the design of the Boston Project, with emphasis upon close liaison between the community and appropriate academic groups within the university, offers some solution, or points directions of solutions.

A large percentage of teachers already have graduate degrees. But with continued relationship between some sort of credit and the salary structure, the trend is growing for community support of continued in-service training. Through the cooperation of superintendents and professional associations in organizing local teachers for in-service television participation, an opportunity could be provided to improve the program quality and effectiveness in more classrooms.

Regional television sponsorship by institutions of higher education in a geographic area offers exposure to specialization from those institutions in producing specially designed teacher-education programs. Such cooperative sponsorship should provide for mutual transfer of academic credits among institutions to their various degree programs.

In geographic areas encompassing two or three states, university programs provide areas of specialization not represented in the programs of local colleges. Cooperation between the university faculty and the local teachers college or teacher-education department could provide an opportunity to tap the clinical resources, advanced graduate leadership, and experimental and research programs generally initiated only by larger institutions. Although engaged in a cooperative venture, each institution could develop its own particular processes for evaluation, its own requirements for seminar-discussions, other contracts with faculty, and its own requirements for assignments to insure achievement consistent with the institution's academic standards or philosophy.

Probably the most significant problem, after denting institutional vested interests and policies, is that of costs. Unless funded, no single institution can afford to develop and broadcast educational programs on television. However, those funds could be provided if universities and colleges would cooperate in planning, developing and marketing them. Area use of programs already developed (e.g. "Continental Classroom," "Audio-Visual Aids in Education") presents one cost solution; their content is generally acceptable if some prerogatives for local control and administration are provided.

Informal adult education using television. Turning away from telecourses, the task of describing the relationship of adult education and television becomes more difficult. Adult education programs have to be distinguished from general broadcast programs of both educational and commercial stations which contain educational content. Such documentaries as the "NBC White Papers," "CBS Reports," and ABC's "Close-up" series would qualify as educational broadcasts by common sense standards.

If the field is to be described and limited, the following criteria are suggested:

1. The television broadcast must be educationally well-planned. Since much material exists on planning educational broadcasts, elaboration is not needed.

2. A viewer's primary motive must be to learn. It need not be the only motive; motives are frequently intertwined, particularly with adults.

   The following anecdote about citizen action and education did not involve television but makes the point of multiple-motivation abundantly clear.

   In a Southern California city about 5 percent of the people, some 10 years ago, were Mexican nationals who could speak and read only Spanish. Annually, the local evening high school appealed to these people to register for classes in English so they could become naturalized American citizens, but only a handful responded. One year, not long ago, a community organizer succeeded in making clear to these people the relationship between their non-voting and the lack of any official action on their complaints about poor street lighting, deep holes in the street and the inadequacy of other municipal services in the area in which they lived. When the people understood that only by becoming citizens would they vote and that it was necessary to learn English to become naturalized, the number that registered for English one spring increased from the customary 15 or 20 to 1600.

   In this case, the adults clearly saw education as the major route to cherished goals. Telecasts, too, which are primarily educational, should be regarded by viewers as helping them move farther towards desired goals.

3. The broadcast should not be a complete experience in itself, but should stimulate the viewer to further thinking and studying. Something must be required other than merely listening or viewing. Reading, joining a discussion, visiting a local government office, taking a test, writing a paper, using a machine, demonstrating a new skill, or any of the wide variety of activities focus, deepen, and anchor the learning.

By this definition, we leave to general broadcasting such excellent programs as the network and NET documentaries, and most programs of libraries and museums. We also ignore the fact that some activity related to watching telecasts may be so highly personal as to defy objective classification. A stimulating broadcast may spark a dialogue with oneself and thus continue the learning process. There is no intent to deny that many general broadcasts may be educational in the best sense of the word. But the result is unpredictable, therefore not considered here.

Four general kinds of programming which meet the three criteria established earlier are: (1) direct teaching for particular target populations, (2) broadcasts for individual viewing but accompanied by prepared or selected readings, (3) broadcasts for individual or group viewing and directed toward discussion groups, and (4) programs designed to stimulate participation in the study and solution of community problems.

Direct teaching. Examples of such programs are "Operation Alphabet," designed to help adults learn to read and write. Initiated in Philadelphia with the cooperation of the public schools and WFIL-TV, a commercial channel, this series has been run or scheduled in 55 cities (as of June, 1963).

The station in Minneapolis-St. Paul reports success with broadcasts directed toward industrial workers. An employee training program, known as "Misota," is broadcast four days a week for a total of four hours, divided between afternoon and evening hours. Although addressed toward all potentially interested adults, the program is most widely used by a number of industries in the Twin City metropolitan area that provide company time for employees to view the program and engage in supplementary educational activities. A nine-dollar fee is charged for each 12-week course for such courses as "Psychological Aspects of Supervision," "Efficient Reading," and "Human Relations in Industry." The station reports registrations surpassing 300 for several of these courses.

The Cooperative Extension Service, which relates the work of the Federal Extension Service of the U. S. Department of Agriculture to work of the College of Agriculture of the State Land Grant College and the County Agricultural Agents, makes frequent use of television and films in its education program. Little attention seems to have been given to its work outside of farming circles. County Agent use of television runs to practical demonstrations -- use of farm machinery, application of research to raising crops or home economics for housewives. A few state universities encourage television broadcasts more broadly interpretive of modern life.

The potential for use of television by the Cooperative Extension Service can be seen in the fact that every state has a land grant college. Most of these colleges have film production units. Also a county agent in every county in the United States is regularly reminded of the values of film and television and helped in learning how to use the media effectively. Finally, the County Agent program is largely subsidized and, generally, no attempt is made to collect fees from participants. When one considers that more than 200 million dollars a year is spent by the Cooperative Extension Service on educational activities, the possibilities are quite clear.

Broadcasts for individual viewing, accompanied by reading. NET has distributed 16 programs (one-half of a series) under the title, "The Search for America," produced by Washington University in St. Louis. Production costs ran to about $3500 per half-hour program. Sixteen nationally well-known individuals, most of whom appeared on the television broadcasts, wrote essays to accompany the programs. These were released in paperback by Prentice-Hall simultaneously with the release of the television shows. The shows and the books were promoted by the local stations and the book publisher.

Broadcasts designed for group study and discussion. The first sustained experiment in this field was conducted by radio in 1953 in San Bernadino, California. Using a series of nine programs, "The Ways of Mankind," San Bernadino Valley College, with a grant from the Fund for Adult Education, arranged for the preparation of articles to accompany the radio broadcasts and their publication in the local newspaper, the San Bernadino Sun Telegram. The College also organized listening groups and trained discussion leaders.[31] This technique has been successfully adapted to television, first in St. Louis, by the Civic Education Center at Washington University.

The newly-established Department of Utilization of NET places major emphasis on broadcasts for study groups. In the past two years, NET has been instrumental in circulating the "Age of Kings," a series of 15 Shakespeare plays. Designed to accompany the broadcasts are paperback texts of the plays as they were performed on the air and study guides to assist students and teachers (as well as individual viewers) in exploring the plays more intensely.[32]

Currently available (1963) over most ETV stations is "Exploring the Universe," a series of 11 one-hour shows on different aspects of astronomy with Dave Garroway as host. An accompanying book of readings has been published by McGraw-Hill. The broadcasts and the readings were underwritten by grants from the National Science Foundation. Both were inspired by the American Foundation for Continuing Education in Chicago which also assists in organizing study groups to relate the visual and written materials.[33]

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[31] E. I. Johnson. The Community Education Project: a Four Year Report. Calif.: San Bernadino Valley College, 1956.

[32] National Educational Television and Radio Center, Annual Report of the Department of Program Utilization, 1961.

[33] NET News. Published by the National Educational Television and Radio Center, Winter 1963.

NET also now cooperates with the Foreign Policy Association in preparing series of television broadcasts to accompany the "Great Decisions" (in American foreign policy) program, an annual featured program of FPS in several hundred cities for the past seven years.

Programs similar in format to the NET efforts are now in preparation by the University Council on Education for Public Responsibility. Established in October 1961 by 11 universities that had developed interworking relations over a period of 10 years, the Council is now attempting cooperative programming for adults on major topics of broad, general significance. The Council has selected for its first project the subject of urbanization and is currently planning a program, to begin early in 1964, with the following parts:[34]

1. A series of eight television broadcasts, each on a different aspect of urbanization. These will be financed by NET at an estimated cost of $15,000 per program.
2. A book of readings prepared by U.C.L.A. designed to provide background material for the topics presented via television.
3. A national lecture circuit which would bring outstanding speakers to the campuses of the cooperating universities.
4. Additional local programming developed by each of the participating universities, tailored for its own area.

The local supplementary activities will probably include exhibits, conferences, institutes, seminars, lectures, additional television broadcasts, small group discussions, etc. The 11 universities regard themselves as instruments to spread such cooperative programming among institutions of higher education and hope that other universities will ultimately join them. The effort is supported by a $100,000 grant from the Fund for Adult Education.

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[34] From unpublished documents and Johnson correspondence with representatives of participating universities. Contact is the Center for the Study of Liberal Education for Adults, 4819 South Greenwood, Chicago, Illinois.

Broadcasts addressed to community problems. Using an approach similar to "Exploring the Universe," several cities have offered broadcasts designed to heighten interest of local residents in community problems.

The Regional Plan Association (of New York), for example, carried on a massive program in the Spring of 1963 to involve thousands of New Yorkers in studying local problems and long-range goals. Known as "Goals for the Region," the program offered five weekly one-half hour broadcasts over a commercial channel, WPIX. More than 600 study groups completed the series and submitted detailed responses which are currently undergoing critical analysis.

The Metroplex Assembly operation in St. Louis, Missouri, offers, annually, a series of four to eight broadcasts on a common theme, for example, on problems of youth. "The Metroplex Assembly" staff, part of Washington University's Civic Education Center, helps organize viewing groups, prepares and circulates reading material and discussion guides and trains leaders for the viewing posts. A feature of the St. Louis program is the opportunity to telephone in questions from viewing posts (groups of people watching together) which become the grist for discussion during a second television program the same evening. As many as 503 viewing posts have been in operation simultaneously and over 100 high school classes have also participated in the "Metroplex Assembly." Its goal is to arouse the interest of citizens in local problems and to suggest avenues of activities in solving them.

These techniques, although only now gaining widespread use in the United States, have long proved their worth in other countries. In England, France, Scandinavia, India, Japan, Canada and other countries, television broadcasts directed toward viewing groups are an established feature of life. Besides education and communication, they also help the citizens gain a feeling of community involvement.

A current project of the National Education Association is the attempt to understand how to best use television to stimulate study and action in community problems. NEA places special emphasis, as one might expect, on the role of the public schools. Organized jointly by the Audio-Visual and the Adult Education Divisions, the NEA Project reports that the following factors are among those that help promote the effective use of television in stimulating citizen action in community problems:

> Active community participation is essential in the solution of urban problems.
>
> Communication alone is not enough. The assembling of facts by community leaders plus participation by viewers with commitment to study and action are vital.
>
> An ETV program has a greater chance of motivating action if it uses a role model -- a well-known factor of importance who "made the grade." Referring to Alcoholics Anonymous, "a successful group therapist is someone who understands very well the spot the boys are in, their values and habits, and yet who is in a position to suggest alternatives and whose own example is one they might want to follow."
>
> Opportunity must be provided viewing groups to undertake action projects. "Leads" must be given them, however.
>
> From the motivational point of view, suggestions for educational programs that are wanted by viewers themselves are far more likely to be successful than courses arbitrarily offered them. Information should be fed only as it is asked for. First concentrate on making the viewers want to learn.

Future directions. Telecourses will continue to represent one use of television in meeting adult education needs, but the major use of the media in this area of education will probably occur in other ways. Telecourses will continue to be most widely used by those institutions that use television extensively in their normal programs for the full-time day student.

Harvard's Bachelor of Arts in Extension Studies and St. Louis University's "Community Campus," described earlier, will probably continue to grow and may be adapted by institutions serving other areas. However, the major use of television in adult education is not going to come about through formally organized curricula. The most promising lines of development appear to be those described below.

Direct teaching of large numbers of adults with specific needs. Industry is just beginning to discover the value of television in training and retraining employees. Factories in the future may be wired for closed-circuit television or at least equipped to receive open-circuit broadcasts in rooms set aside for educational purposes. Given the speed of technological change, industry can be expected to engage in large-scale retraining of employees in the next decade, with the possibility that many of these employees will have to be retrained again within another decade. There will be literally hundreds of thousands of people who will need to be trained or retrained each year. Since most of these workers will be concentrated in the large metropolitan areas, television is both practical and economical. Universities can be expected to provide television lectures and demonstrations to hundreds of thousands of people engaged in similar work in different plants and locations around a metropolitan area, supplemented by an instructor at each location who periodically answers questions and clears up problems.

The use of direct teaching outside of business and industry will be more difficult to organize, but is certainly feasible and probably more economical than any other method of education. A most fertile opportunity is rooted in the educational needs of the large number of newcomers to the city, particularly those who have been driven off the farm or out of the small towns by the mechanization of agriculture. Most of these people lack the essential skills for successful living in the city. The women usually know little about urban housekeeping or about patterns of successful family life in that society. They know little about the specialized resources the city has to offer. Thousands of these people, in every large city are exposed to television.

The techniques developed by the Cooperative Extension Service in working with rural people are entirely adaptable to servicing the educational needs of these newly-arrived, usually indigent city dwellers. The problem in meeting their needs is two-fold: first, how to finance the broadcasts and, second, how to finance and carry out the necessary community organization work to bring these people together for an effective educational experience which includes follow-through activities. Suspicion and indifference will have to be overcome. This country has not yet begun to use its energies in urbanizing the millions concentrating in metropolitan areas, all within reach of television.

Juvenile delinquency is currently receiving massive attention in the larger metropolitan areas. Films can be used to stimulate discussion among parents of teenagers in the deprived areas of a city about many of the economic and social factors involved in the delinquency of culturally-deprived youth. Delinquency control grants from the federal government in the neighborhood of three to ten million dollars can be expected in the large metropolitan areas of the country. What role will television play?

In St. Louis, the Banneker School District comprises 23 elementary schools in the oldest and most congested part of the city. The staff of the district has discovered that work with parents is essential in raising achievement levels of elementary school children. Could not television broadcasts be developed and recorded for use elsewhere that would help parents understand the problems their children face and the kind of society in which they are growing up? Such broadcasts would enable parents to discuss the kinds of jobs their children might hope to hold, the growing pains of all teenagers, and help awaken awareness of opportunities for lives richer for the children than those the parents knew. It is estimated that there are a hundred thousand people in the deprived category in St. Louis who would respond to an approach that is warm and helpful, but not condescending. Lacking at the present time is a mechanism that can arrange for both the production of the television broadcasts and the necessary organizational activities to bring parents and the broadcasts in accord.

The mechanism that comes closest, at this point, to adaptability for this purpose is the Cooperative Extension Service. Whether that Service or a new unit, yet unformulated, will take on this work, no one can at the moment state. Clearly, the job is there waiting to be done.

Television broadcasts directed toward organized discussion and study groups. As pointed out earlier, other countries have made much more extensive use of television in this manner than has this country. Drawing on the "Metroplex Assembly" experience in St. Louis, three different kinds of skills seem necessary to carry out an effective program: (1) skills to produce television broadcasts that will stimulate discussion; (2) educational skills in such matters as training discussion leaders, preparing study materials and arranging for such special educational meetings as seminars, institutes, etc.; and (3) community organization skills to relate the study and discussion of community issues to the work of the agencies and organizations in any community concerned with the problem under discussion.

The different elements of this package are present in every metropolitan area in this country, but they have not been effectively put together. The "Metroplex Assembly" suffers from the fact that there is no metropolitan nerve center to which it can look for guidance in deciding which topics or problems should be programmed through the Assembly. Excellent nerve centers exist in other cities, but have made no use of television. In still other communities where cooperation between a central coordination mechanism, such as the Greater Baltimore Committee, and a television station has developed, the essential educational work of serving the needs of citizen groups meeting for study and discussion is lacking. When these pieces get fitted together, this country will see television used to effect hitherto not conceived.

Older people. The NORC Study established that people above 55 years of age employed television for educational purposes more than other groups. This age group also is more interested in civic, philosophical or religious affairs than are other age groups. Educational programs addressed to older people should not be concerned with such trivia as teaching a new game to while away time. Rather, they should help older people use their long base of experience in creative understanding of the problems of their society. Older people also showed a strong preference for discussion groups. A wide-awake community might endow the title of 'senior citizen' with real dignity through a television approach that combines special presentations of current community or national problems while seeking to draw from them comments and suggestions about public policy, based on their reflective maturity.

Conclusion. Even this quick look at some possible uses of television in the field of adult education shows how meagre is present programming against its potential. The problem seems to lie in the fact that no mechanism, with access to all the adult educational resources available in a community, has yet been created. It will probably take federal and state funds to accomplish this and to stimulate the kind of sustained programming for adults that meets the needs of many different groups in a city. There should also be opportunity for private funds and foundation grants to help in developing the potential. Above all, vision and courage are needed and a willingness to cooperate on the part of both adult educators and the television broadcasting industry.

CHAPTER 5

PROBABLE COSTS AND SUPPORT NEEDED

Making predictions is a hazardous business as most highway engineers well know. The traffic usually surpasses the estimates, with the result that the ample four-lane highway must too soon be expanded to six lanes. To give an example with respect to ETV: two years ago Nelson (1962), in a carefully detailed report, estimated,[1] "the nation's total investment in this medium for education is likely to be in the neighborhood of $66,000,000 by 1971. Annual operating budgets should be somewhere around $34,000,000." From the data compiled for this report, we estimate that these figures will be reached in the next two years (1965-1966). Nelson could not anticipate the impact of the Educational Television Facilities Act[2] on capital investment, nor the effect of the law regarding all-channel receivers. Nor could he anticipate the reservation of three times as many or more channels for educational and community use by the FCC. This comment is made in all humility, for one can only anticipate equal or greater fallibility in predicting the future for ETV. Despite limited budgets, it continues to expand. The best one can do is estimate minimum developments and trust his reader's understanding.

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1. Nelson, op. cit., p. 175 (see footnote 3, page 57).

2. This act authorizes a federal appropriation of $32,000,000 to be matched by state and local funds for the construction of educational television facilities.

From the data generated for the Conference on the Economics of Educational Television and for this report, it appears that a minimum of $100 million will be needed to build the needed ETV stations, and $125 million per year to operate them.

The situation to which present data refers is extremely fluid. It has taken 13 years to establish 88 educational stations. In the last three years the audience within reach of an educational television signal has doubled. It is likely that because of such legislation as the ETV Facilities Act that 200 stations will be established in the next 10 years, bringing 90-100 percent of all homes within reach of ETV. At the same time, speeding technological developments may soon render present equipment obsolete. Current open-circuit broadcasting systems may be replaced by combinations of systems involving open-circuit, multiple-address, and closed-circuit systems including automated storage and retrieval facilities. This makes it impossible to predict future costs. What follows, then, is an estimate based on present data projected into an unpredictable future. But it is the best that can be done, and it provides a reasonable idea of the magnitude of the task. The estimates are conservative.

Capital Investment

The projected estimate of the capital investment for ETV stations over the 10-year period from 1964-74 is based on the following assumptions:

1. That all 213 metropolitan areas of 50,000 or more population will be served by ETV.
2. That an additional 50 percent of facilities will be needed to provide additional channels both in major metropolitan areas and cities with less than 50,000 population, providing a total of some 320 stations including those already in operation. (These two assumptions are consistent with FCC proposed Table of Allocations for UHF channels.)

3. That these new stations will be constructed during the decade. (Actual rate of construction will be influenced by appropriations voted by Congress under the ETV Facilities Act and by availability of matching funds.)

4. That initial capital investment will be similar to present investments.

5. That obsolescence will require replacement of present equipment.

In early 1963, in the course of preparing for educational television expansion under the Educational Television Facilities Act, the Department of Health, Education, and Welfare estimated that 31 new stations would be in construction by July, 1964. As the result of a recent survey, the Department expects a total of 65 new stations to be activated in the fiscal year ending June, 1965. Replies from educational television authorities in 46 of the 52 jurisdictions (50 states plus Puerto Rico and the District of Columbia) indicate that 35 new stations will be activated in 22 Eastern states, 23 new stations in 19 Midwestern and Central states, and five new stations in the 10 Western states. The total of expected activations reported is consistent with the rate of authorization requests being made to the FCC. Construction permits, which averaged nine per year between 1951 and 1960, jumped to 20 in 1962 and 29 in 1963.[3] This proliferation will double the number of stations and bring most of the population within reach of an educational TV signal.

Table 10 provides information on the initial capital investment in 60 ETV stations between 1953 and 1961. One notes that the recently constructed stations, both VHF and UHF, show lower capital investment, with initial investment running 35 to 50 percent lower. The average grant award under recent requests for federal assistance has been consistent with the anticipated average of $175,000.

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[3] Communication from Dr. John Bystrom, Department of Health, Education, and Welfare, June, 1964.

TABLE 10 Initial Capital Investment of ETV Stations, 1953-1961 (from K. M. Engar, Station Operation, Appendix-FCC reports)

AMOUNT OF CAPITAL INVESTMENT AT TIME OF ORIGIN OF BROADCAST OPERATIONS (in thousands)	VHF CHANNELS		UHF CHANNELS	
	1953-58	1959-61	1953-58	1959-61
$1,000 plus	1			
900-999				
800-899	1		1	
700-799				
600-699	1	1		
500-599	3			1
400-499	1	4	2	
300-399	8	1	1	2
200-299	6	1		
100-199	4	6	2	3
under 100	2	2	1	5
Total	27	15	7	11

Comparison of the initial capital investment with present capital investment (see Table 1, page 59) suggests that existing stations doubled their investment in a five-year period. It was possible to verify this by comparing the reports of 24 stations included in both tables. Eighteen of the 24 stations were VHF, six were UHF. These stations showed an average increase of over 100 percent in a five-year period. The dollar amounts ranged from $10,000 to $800,000 with a median of $275,000. This indicates an annual growth of approximately $50,000 per station.

Probably fewer than one-quarter of the new stations will be VHF. Taking an arbitrary figure of $300,000 as the average investment for an ETV station (UHF or VHF) and assuming 20 to 25 new stations per year, the estimated annual investment for new stations amounts to from 6 to 7.5 million dollars. The total for the 10-year period would fall between 60 and 75 million dollars.

To offset depreciation, an additional investment of 50 to 75 millions will be needed during the same period. Six ETV stations, representing diversified types of operations, provided detailed data on their capital investment and operating costs during the past five to eight years. In addition, each developed a prospectus for the next 10 years. In regard to projected capital investment, the stations' figures cover a variety of situations. One station simply plans to continue its present operations, and estimates that its costs are likely to increase five percent per year (an estimate consistent with information provided by other sources). Another station anticipates in high aspiration that it will replace all existing equipment, inaugurate a UHF channel for school broadcasting, institute a closed-circuit library facility for university use, and begin color broadcasting. In all, it estimates that it will triple its capital investment during the next decade. Although it is difficult to balance the several elements -- expansion, average annual increase in costs, possible reductions in price of equipment, and increased sophistication of equipment -- it does not seem radical to estimate that the minimum cost of replacing existing capital will be 50 to 75 million dollars if the five percent annual increase holds. Thus the estimated minimum capital investment -- over the next 10 years for both old and new installations (exclusive of closed-circuit or 2500-megacycle installations) should exceed $110 million and may reach $150 million.

Station Operating Costs

From the data provided in Table 3, page 62, and from actual and projected costs of the detailed budgets of the six stations[4] just discussed, approximately one-half of a station's budget is spent on direct operation -- technical, engineering, and administrative. As seen in Table 2, page 60, the present median operating budget of existing stations is $200,000, with VHF more expensive than UHF stations. A figure of $100,000 may be used as a typical cost of station operation.

The most conservative estimate of the increase in operating costs during the next decade made by any of the six stations is 50 percent (five percent per year). Using this figure, the $100,000 now spent on station operation would climb to $150,000. This will be offset to some degree by the fact that more of the stations being activated will be UHF stations with lower operating costs. Assuming that three out of four of the anticipated 320 ETV stations will be UHF operations, the annual operating costs will conservatively reach a figure of $40 million per year by the end of the 10-year period.

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[4] Stations KRMA, KQED, KCTS, WGBH, WTHS, WQED.

Instructional Television Program Costs

Programs broadcast for school viewing are sufficiently different in nature and objectives from those broadcast to home audiences that their costs should be considered separately. "Instructional Television Materials"[5] lists television courses available for national distribution. From the approximately 500 instructional courses on either videotape or kinescope located by Meierhenry and McBride,[6] reviewing teams selected those programs suitable for national distribution (on the basis of content and quality of production) as well as those available for exchange. (It is worth noting that the reviewing teams found that only 10 percent of the programs satisfied their standards for national distribution.

A questionnaire was mailed to the producers of 105 of the 179 programs catalogued to obtain cost figures for instructional programs. (The smaller sample results from the elimination of duplicate listings, by grade level, of all courses with three or less programs, and college programs.) Of the responses received, 80 provided actual cost data, or best estimates, for production, overhead, and instructional staff. These figures were converted to cost-per-hour and presented in Table 11.

On a dollar-for-dollar comparison, any television program which costs $100 per hour would have to be viewed by 200 or more pupils at a given grade level to compare favorably with the cost of regular instruction.

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5. Catalogue of the Instructional Television Library Project. New York, 1962.

6. Wesley Meierhenry and Jack McBride. "Exchange of Instructional Television Materials: Report of the Nebraska Survey." In Educational Television: the Next Ten Years, p. 266 (see footnote 3, page 57).

TABLE 11 Production Costs of Instructional Television Programs

(*) indicates one or more programs selected by evaluation committee as suitable for national distribution.

COST PER HOUR	ELEMENTARY SCHOOL LEVEL						SECONDARY SCHOOL LEVEL						TOTALS	
	Subject Matter						Subject Matter							
	Sci.	Arith.	Lang. Arts	For. Lang.	Music & Arts	Soc. Stud.	Sci.	Math.	Engl. Human.	For. Lang.	Music & Arts	Soc. Stud.	Select Prog.	All Prog.
$4000 up	4*	1	1						1				(2)	7
3000-3999	5			2			2							9
2000-2999	2*	4*	2	2	3		4*		2	1	1*		(4)	21
1500-1999	1*			1	1	2	1					3	(1)	9
1000-1499	4*		2	1*	1	1	1						(2)	10
500-999	2		4*	3	1	1	1	2		2			(2)	16
100-499	1			1*	2		3		1				(1)	8
Number	19	5	9	10	8	4	12	2	4	3	1	3		80
Median	$3000	2500	1250	1500	1500	1500	2000	750	2500	750	2500	1750	$1900	

The median cost per program per hour is seen to approximate $2,000. (Interestingly, the table suggests that the programs chosen as being suitable for national distribution -- indicated by an asterisk -- cost no more than the average cost of the total sample.)

According to data from the U. S. Office of Education and the National Education Association, the current average per capita instructional cost in the U. S. public schools is approximately fifty cents per pupil hour.

A program costing $1000 per hour would have to be seen by 2000 pupils. This would indicate that school systems of less than 2400 pupils should not consider television, even if they plan to produce their own programs at minimum cost, and 10,000 is the desired pupil population if median cost is used as a base. If this line of reasoning is valid, then instruction by VHF or UHF broadcast is not economical in cities of less than 50,000 population, unless the programs are being provided by other sources.

In practice, the television program does not replace the teacher. Usually she is viewing the program with her class and being paid to do it. Therefore costs can be judged not on a dollar-to-dollar basis but in terms of that fraction of existing operating costs which ETV replaces. Also there is the capital investment required to make television operative.

If the capital costs of television sets, antenna, and material are $200 per classroom per year, this averages no more than $10 per child per year, or approximately one cent per child per hour. If only 20 percent of a pupil's instruction was by TV, the cost would be five cents per instruction hour by television. Rental or production fees for television programs would have to be held to three to five cents per hour to be economically justifiable. This upper limit of eight to ten cents per hour is established by the fact that 70 percent of the cost of instruction is represented by teacher salary, i.e. 35 of the 50 cents per hour cost of education cited above. Hence the costs of TV instruction would have to be held to half or less of the amount allocated for teacher salaries. Educational stations report an average of 20 hours per week of school broadcasts. It would cost these stations $8,000 per week to produce and broadcast programs at the average costs indicated in Table 11 (provided each program had a five-year life expectancy permitting amortization of costs over a five-year period -- 20 hours of programs at $2,000 = $40,000, amortized over five years = $8,000 per year). At this rate, 30 weeks of school broadcasts would require an annual budget of $240,000. At present, ETV stations are producing all of their programs, 50 hours day and night, on less than half this amount.

Several sources indicate that the amounts being spent for live programs are considerably less than the average for quality recorded programs. Several stations report instructional program costs in the range of $400-500 for all costs including teacher salary and station operation. The cost of the Dade County station per day, for example, amounts to $1760. Such programming clearly utilizes the distributive capacity of open-circuit broadcasting more than its other capacities.

The Meierhenry-McBride Survey disclosed the extensive duplication resulting from production of programs in the same subject matter and grade area by separate school systems. A movement to increase the exchange of programs has grown to the point where established experimental libraries now make selected programs available to interested school systems. Cohen[7] estimates that a self-financing service could be developed which could provide a variety of programs at all grade levels from both contracted production and purchase of programs (130 courses available at the end of 10 years). He estimates a need of $4 million income per year for the purpose. Program rental fees ranging from $30 to $200 per week according to size of community (the fee schedule prices out at a satisfactory per pupil cost) would provide the necessary income if 320 ETV stations obtained 20 percent of their instructional programs from such a service. On the basis of current usage, it is not improbable that stations would obtain as much as 50 percent from such centers. The major barrier is the initial capital required for purchase and production of programs.

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[7] Edwin G. Cohen. A National Instructional Materials Service. Prepared for the National Education Television Center: New York, 1962.

Although it can be no more than a guess, it appears that current annual expenditures by school systems for recorded instructional programs approach the $3 million mark. If the 500 recorded courses have the median costs of $2000 shown in Table 11, and each includes an average of 15 hours of programs, they represent a total investment of $15 million. Again assuming a five-year life expectancy, $3 million per year is being invested in programs over and above the programs that are being done live and not recorded. Although the task of redirecting these funds is difficult because of parochial reluctance to modify curricula and convictions regarding the superiority of local products, nevertheless the needed support exists.

Rights and royalties. Jack McBride[8] calls attention to an aspect of program production which has been largely ignored during ETV's first decade,namely that of teacher and producer rights and royalties. The complexities are too great for detailed exposition here. There are a variety of different agencies which contract for production -- school, college, station, foundation, commercial company. Varied instructional activity involving live and recorded program materials exist. They may be locally, regionally, or nationally distributed, for single or repeated broadcast, and may or may not involve reimbursement. The problem affects program costs and professional rights of teachers.

The following appear to be the principal elements for consideration:

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[8] J. McBride. Teacher and Producer Rights and Royalties. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

1. Factors affecting compensation including
    - planning and preparation of TV course
    - participating in summer workshop or other associated endeavors outside the terms of regular employment
    - preparing supplementary materials
    - presenting the course
    - coordinating the instruction television effort
    - recording the course
    - revising lessons and supplemental materials rendered obsolete
    - re-presenting the course live
    - using the recorded course locally
    - distributing the course for use by others.
2. Right to recall, review, revise, and/or remove the recorded programs or other related materials.
3. Duration of contract life between producer and teacher governing rights with respect to programs and materials.

The patterns of present arrangements covering the various elements range from those in which the work of the teacher is viewed as a regular part of her teaching load without any special contractual provisions, to those specifying the residual and remunerative rights of both producer and teacher. There is no question regarding the importance of carefully specified contractual arrangements between producer, teachers, and other contributors to ETV programs, in order that the rights of all parties be protected. The National Educational Association, the American Association of University Professors, the American Council on Education, and the American Federation of Television and Radio Artists have all been devoting considerable attention to the problem.

From an educational viewpoint, the problem goes beyond that of the rights of the principals because it affects the availability and exchange of programs. Investigation revealed that necessary clearances had not been obtained for the majority of the 15,000 recordings identified by

Meierhenry and McBride,[9] and that in many instances ownership of the lessons was difficult to determine. Lacking the necessary clearances, exchange of programs is impossible and efforts to establish regional and national instructional television libraries have been greatly hampered.

General Educational Program Costs

There are several ways of arriving at a projected cost estimate of educational programming over the next 10 years. The first is to extend present budgets to projected stations. Thus, if 320 stations were to spend an average of $150,000 per year for programs, total annual costs of programs would amount to nearly 50 million dollars per year. Assuming that audiences continue to respond as at present, educational stations could be expected to reach approximately 20 percent of the potential audience for about one hour per week. This would cost approximately eight cents per viewer. Implicit in this cost is a value judgment that present quality programs are worth this amount. Actual cost figures in major centers range from 5 to 14 cents per viewer hour. Though much lower than the costs of either formal education or motion pictures, they compare with commercial TV costs of approximately one cent.

A second approach to projecting program costs is to estimate the amount required for a combination of local and national "network" production. National Educational Television, today's ETV network, owns no cameras or studio facilities. It is a program planning, supervising, acquiring, scheduling and distributing agency. It contracts with its affiliated stations or with independent producers for their facilities and production personnel. The system has its merits, for it has provided needed support to local stations. But its distribution system, though low in cost, is outmoded. Videotape or film copies are made of NET programs and are shipped by various distribution patterns to the 80-odd affiliated stations until all have received the program. The time necessary for a program to be received by all affiliates depends on the desired pattern of distribution. Fast service for national or international public affairs programs can be arranged when one copy for each affiliate is made. This allows for simultaneous broadcasting during one week throughout the country; or 35 copies can be made, which covers the nation in two weeks. The general distribution pattern uses either 10 or 20 copies -- 10 copies takes up to 21 weeks, and 20 copies means a period of 10 weeks before a program has been "nationally broadcast."

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[9] Wesley Meierhenry and Jack McBride. A Study of the Use of In-School Telecast Materials Leading to Recommendations as to Their Distribution and Exchange. Lincoln: University of Nebraska, 1961.

NET would love this*

By strengthening the existing facilities of certain key affiliates so that production centers would be on call to produce quality programs for a national service, James Robertson[10] estimates the costs of a national network operation as follows:

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[10] J. Robertson. A National ETV Network of the Future. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

Television Programs Fund		$20,000,000
General Operating Budget:		
General Administration (6-8)	$ 360,000	
Program Dept. (staff: 40-50) production teams, writers, researchers, evaluators	1,000,000	
Development Department (5-6)	180,000	
Traffic and Technical (25-30) network operations, engineers, traffic	430,000	
Promotion & Publicity (10-12)	650,000	
Station Relations (5-6)	340,000	
Business and Legal Affairs (16)	600,000	
International Division (5-6)	200,000	
Amortization & Rehabilitation	140,000	
Contingency (5%)	200,000	4,100,000
Long-lines Expense (8 hours live)		6,000,000
Funds for systematic improvement of station production facilities		1,000,000
		$31,000,000

Although $31 million is a small figure compared with the several hundred million spent annually to operate the commercial networks, it is not in sight. At present, exclusive of grants from the Ford Foundation, NET anticipates an average income of one to two million dollars, less than half coming from affiliate fees. If 320 educational stations were to pay a fee of $100 per hour to a national program service for 20 hours of programs per week, each station would pay $100,000 per year, providing the estimated 31 million dollars needed. With this income, a national service could afford $10,000 to $15,000 per hour program costs, roughly 10 percent of commercial prime time costs. In addition to network fees, stations would have to produce some programs for local public service. To obtain a rough estimate of such costs, 15 network owned and operated stations, and seven educational stations were asked to identify first the best public service programs they had produced in 1962, and subsequently, to supply actual or estimated costs of the programs. With the exception of the CBS stations which could not comply with the request because of company policy, all the stations cooperated. These costs are reported in Table 12.

The bimodal nature of the costs of educational programs -- 10 of the 34 programs cost between $100 and $199 per hour, 22 between $500 and somewhere over $15,000 -- results from the difference between local and NET production. The median figure for local station production is around $500. For NET it is around $10,000. NET's costs approximate those of commercial stations. (It is significant that no commercial programs cost below $500, and only one below $2,000; however, network owned and operated stations may spend more on public service programs than independent stations.)

Assuming an educational station received 20 hours of broadcasts from a national service and produced the balance of a 50-hour schedule (exclusive of school broadcasts) at a cost of $100 per hour, an annual budget of $150,000 would be required for general broadcast programs.

A third method of estimating program costs is to ask how much it would cost to provide a national educational network similar to a commercial network. If $40,000 were appropriated for each hour of prime time programming (less than half the average commercial costs), a national network would spend $800,000 for a 20-hour week, or between 40 and 50 million dollars a year. Non-prime-time programs would cost approximately half as much. In addition, long lines for network operations would total about $12 million (longer broadcast day than Robertson's estimate), and administrative costs would run to some $4 million. According to these figures, such a network would cost between $75 and $125 million a year.

TABLE 12 Comparison of Production Cost of Selected Public Service Programs on Local Commercial Television and Educational Television

COST PER PROGRAM PER HOUR	COMMERCIAL	EDUCATIONAL
Over $15,000	1	3
10,000-14,999	2	4
7,500-9,999	4	1
5,000-7,449	8	3
2,500-4,999	2	2
2,000-2,499	1	
1,500-1,999		1
1,000-1,499		1
500-999	1	7
400-499		1
300-399		1
200-299		
100-199		10
Number	19	34
Median	$7,000	$1,000

It is reasonable to assume that such programs would compete in quality with commercial programs. Such an ETV network would expect appro mately 15 percent of the total audience (one-quarter of the sets in opera tion -- typically 60 percent). Even if it attracted only 10 percent of t audience, it would cost only two cents per viewer hour at the level of expenditure cited.

Before leaving these estimates, it may be useful to view them i context. As of 1962, the latest year for which information is available, the FCC reports that telecasting facilities (commercial) then in use repr sented a capital outlay of $672.5 million. By conservative estimate that figure is well over $700 million today. The expense of operating the thr commercial networks and 566 stations now exceeds $1.2 billion per year.[11]

Educational Television and Labor Unions[12]

In September, 1962, when WNDT was scheduled to begin broadcastir as an educational station in New York, an impasse occurred between the station and the American Federation of Television and Radio Artists over the union status of the performing teachers, professors and journalists. Two contributing facts were (1) the station had previously been a commercial station, and (2) that when commercial TV initially ventured into programming that required the regular services of teaching personnel, no objection was voiced to AFTRA's claim that they, like most people appearin before commercial TV cameras, should become union members. Through its

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11. Reported in editorial in Television Magazine, June 1964.

12. Robert M. Segal. Educational Television and Its Relation to Labor Unions. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

contracts with networks and with individual television and radio stations, AFTRA includes in its membership not only all persons who perform as talent, such as actors, singers, announcers, reporters, etc., but also moderators, commentators, professors, teachers, critics, and children' storytellers. The contracts cover educational programs such as "Sunrise Semester," "Continental Classroom," and others. AFTRA argued that WNDT's shift from commercial to educational status did not justify a different status for teachers and professors.

Organized labor has been an influential force in the development of free education in the United States and along with this interest has backed educational television. It has cooperated in various fund-raising drives, given waivers to various educational TV enterprises, permitting replay of recordings without payment of residual fees, and in similar arrangements on a local basis. AFTRA is only one of the unions involved. Engineers, musicians, writers, stagehands and camera crewmen have their unions.

Relations between the performer's union and educational stations generally show a cooperative pattern. Few, if any, contracts exist, although there are several letters of understanding, which recognize ETV as a special category. In practically no case has there been an attempt to write a contract covering ETV broadcasts except in New York. Most relationships are loose, informal, and of a general advisory nature. In a few instances the IBEW (engineers) has contracts with educational stations. All indications are that these contracts are generally less stringent than those with local commercial stations except in New York.

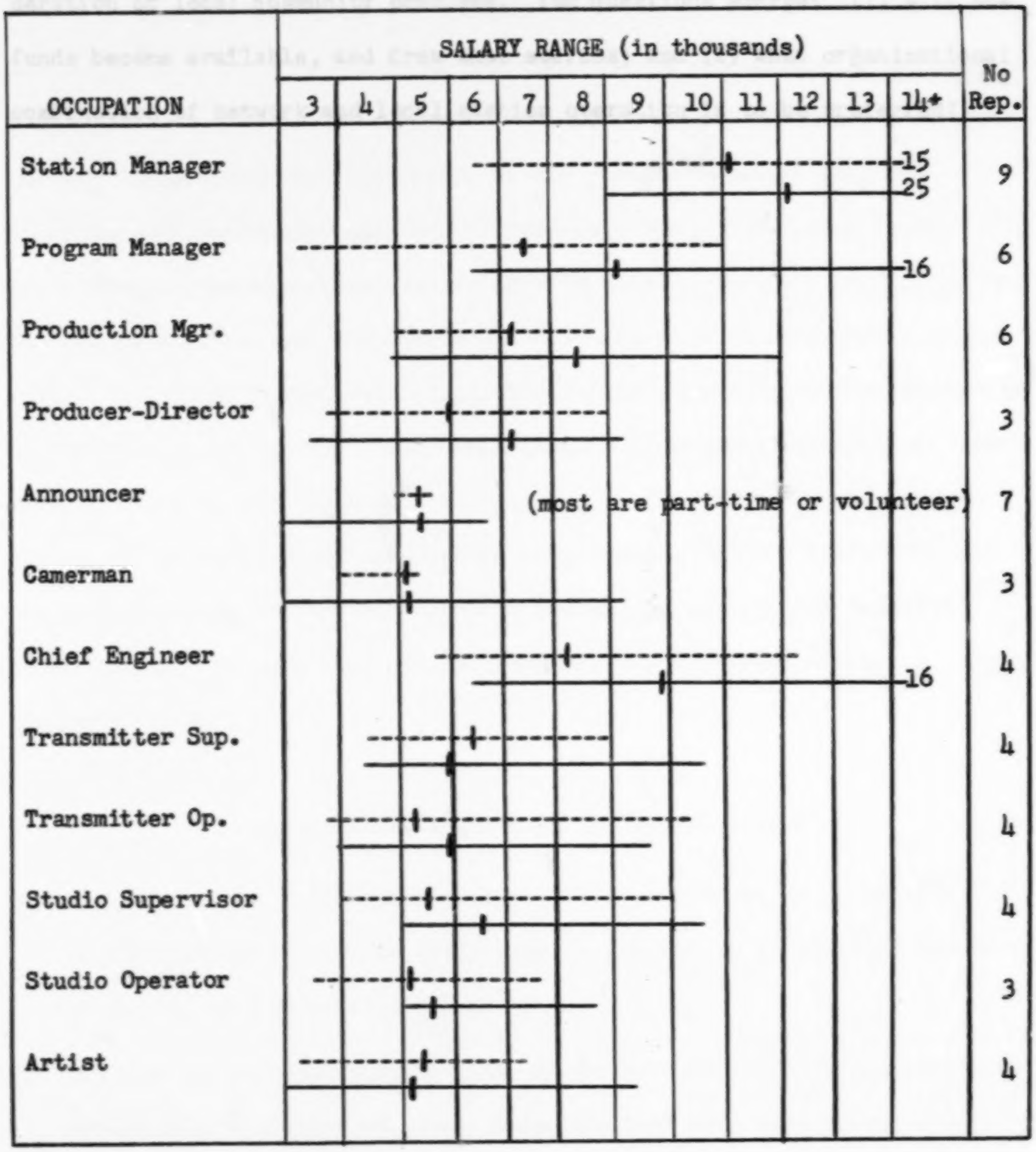
Table 13 presents ranges and median salaries being paid in different ETV occupations. The assumption made in this chapter that operating costs would increase at a rate of 5 percent a year would be invalid if these positions were unionized. The table shows that budgets and wages are related, particularly in the administrative and production categories where the medians differ by approximately $1,000. The accurate impact of unionization on station and network budget is not predictable. It is reasonably safe to assume that it would increase their costs.

Summary

If the assumptions made are tenable, capital investment in new stations will average six to seven million dollars per year during the next decade. This would occur at a higher level in the immediate future because of federal assistance. Amortization and expansion will probably rise from present levels of five million dollars per year to ten by 1975. At present some $20 million is being spent for operating costs, half going to administration and station operation, the rest for program production. Station operation, given a 5 percent annual increase, will rise to $150,000 per station; programs to $250,000 per station, if the average cost per program is $100 per hour. Thus at a conservative estimate, the combined operating budget for 320 educational stations would approximate $125 million. This amount could provide a national educational network similar to commercial networks in program quality and cost per viewer. However, such achievements would be obtained through sacrifice of local programming, a sacrifice scarcely conceivable or justifiable in educational circles. The same amount of money could also provide a combination of mixtures of programs, e.g. a 50-50 mixture of national and local public service programs broadcast

TABLE 13 Range of Annual Salaries of Full-Time ETV Occupations, with Median (1963)

----- = stations with budgets under $200,000
——— = stations with budgets over $200,000



by stations participating in a national broadcast network. Centralization permits higher quality programming concerned with regional, national and international problems; localization provides greater autonomy and consideration of local community problems. Two questions emerge: (1) will the funds become available, and from what sources; and (2) what organizational combination of network and local station operation is to be preferred?

CHAPTER 6

RECOMMENDATIONS AND CONCLUSIONS

Against the background presented in the previous chapters, the participants in the Conference on the Economics of Educational Television were asked to consider the issues and arrive at recommendations.

Because of the complexity of the problem to which they are directed, the recommendations are divided into two groups: the first deals with instructional television (ITV in the Conference's terminology); the second with the non-instructional, cultural side of educational television (which the Conference called ETV). This division, it should clearly be understood, represents little more than an organizing device. One might roughly think of ITV and ETV as morning and evening programming, respectively, or as student and non-student programming. To the Conference and its participants, ITV and ETV together constitute educational television broadcasting. In each case policy recommendations precede financial recommendations.

Instructional Television Recommendations

1. ITV should be a first-class service. Restricting it to closed-circuit or 2500 megacycle systems would deny it the needed flexibility and range of operations for educational programming. ?
2. The size of the distributive unit should be determined in the concrete rather than the abstract. This issue involves many considerations.

For example, how large a unit is necessary to make ITV not only economically feasible but educationally defensible? How much centralization of curricula and methods is healthy? There are no simple answers but cooperative undertakings by smaller systems will yield better dollar-values.

3. ITV should be seen as one part of an educational system. The specific, day-to-day uses of ITV thus must be determined by each system or institution according to its own individual goals. (These goals obviously differ from region to region, from subject to subject.)

4. ITV should be understood further as a device to broaden the "self-contained" classroom. It can do this in five ways:

    a) It reaches into previously inaccessible areas.

    b) It reaches previously inaccessible groups (the handicapped, the home-bound, etc.)

    c) It extends the range of subject matter available to an educational system.

    d) It extends the range of teachers available.

    e) It extends the educational methods available.

5. Teachers should receive special training in ITV use. Though aware of television as an audio-visual device, teachers are not aware of its individual advantages and disadvantages. For example, ITV creates a situation in which a classroom suddenly has two teachers: the television teacher and the physical teacher. How is the physical teacher to make best use of her ITV assistant? And how can television function to establish and maintain standards of instruction? These are questions for teacher-training institutions as well as school systems.

6. Extensive research should be conducted into what constitutes a good ITV program -- in terms of teaching techniques and subject matter. Merely placing a so-called "great teacher" in front of a camera is wanting; for most great teaching involves talk which utilizes little of television's visual impact. Research in learning provides some clues for the development of more effective program formats: presenting models of competence, showing modes of operation for motor skill development, providing greater emphasis on discovery by the learner and eliciting an active response, possibly through use of discovery games and open-ended situations which encourage guessing yet provide built-in non-rigorous checks and sufficient knowledge of results.

The Conference made the following recommendations regarding the funding of ITV:

At the community level

1. School systems should carry the major economic burden of ITV. It should be made clear to the agencies involved that ITV represents a legitimate use of tax money for school purposes. (Whenever possible, school systems should be assisted -- with personnel, advice, money, etc. -- by local colleges and universities).
2. Local government agencies should be doubly encouraged to make regular appropriations for ITV: to exploit the community's existing cultural resources (libraries, museums, etc.), and to develop television as a cultural resource for the community.
3. Insofar as Boards of Education support adult education, ITV should share in the tax dollars made available for that purpose.

4. Any agency interested in adult education -- university extension division, agricultural extension service, etc. -- should participate in the planning and support of programs to fit its particular needs.
5. Local school systems should regularly provide appropriations for research to determine the most effective use of ITV as a component to the educational system.

At the state level

1. State legislatures should appropriate funds to educate teachers, both pre-service and in-service, in the use of ITV.
2. State funds should be made available to encourage local development of ITV.
3. Whenever possible, state funds should be made available to match federal and other funds.
4. A research and development organization should be established at the state level to avoid wasteful duplication of effort at the local level. Such an organization is also the logical agency to distribute relevant information from groups throughout the country, thereby keeping the gap between research and application as small as possible.
5. State departments and universities should be encouraged to develop instructional materials for ETV.

At the national level

1. The NDEA should be encouraged to play a central role in researching and developing instructional materials.

2. The NDEA should undertake training programs in the production of instructional materials and in the proper use of ITV as a part of an educational system.
3. The Educational Television Facilities Act should be implemented and extended.

Other

1. Foundations should be encouraged to continue supporting research and development programs.
2. Universities should cooperate with educational television whenever possible and allow course credit to be given for instructional programs.
3. In view of the growing educational needs of the American population and because open-circuit broadcast space is limited, educational television should seek to reserve channels quickly.

Educational Television Recommendations

In regard to its role in meeting general community needs, the participants strongly opposed patterning Educational Television after commercial broadcasting, where control, particularly over evening programming, is highly centralized in national networks. They recognize the advantages of networking, especially its economy and its capacity to program priorities on national and international levels. However, they want educational television to be responsive to local needs. The recommendations reflect these concerns:

1. Every major "market area" in the country should have at least one educational television station devoted to community programming, plus whatever other channels are needed for ITV programming.
2. ETV programs should be tailored to fit specific community needs. This is the great virtue of educational television in both its ITV and ETV aspects: unlike commercial TV, it is flexible enough to serve the needs of its own community whenever necessary. And to this end it should always direct itself. This means action in and with communities and their belonging groups and agencies to help keep a community healthy.
3. ETV should help a community become better aware of itself. It should do this first of all by bringing the community's social problems into focus -- problems such as juvenile delinquency, shifts in population, the local introduction of automation, and so forth. In its social reconstruction aspect, ETV should also inform the community as to how these problems can be solved, less by telling and more by discussing.
4. In its higher horizons aspects ETV should seek to broaden the type and scope of cultural and informational programming available to the television audience. It should move into areas closed off to commercial television: drama (avant-garde and classic), contemporary dance, the plastic arts, etc. By the quality of such programming, ETV can provide standards of comparison of all mass media.
5. ETV should develop programs to serve a variety of limited audiences -- retired people, professional groups, photographers, etc. -- audiences which rarely find what they need on commercial stations. Stations should establish training programs for future talent -- directors, producers, script writers, etc.

6. ETV stations should conduct extensive research to ascertain the needs of ETV's audience, the impact particular programs have on the audience, and so forth. Its object would be to provide a basis on which ETV stations can improve current programs and develop new ones.

The recommendations about the financing of community educational television were:

At the local level

1. An audit should be made of community organizations to sound their willingness to donate a percentage of their budget to ETV, ideally on a continuing three to five-year basis. (Funds for such an audit might be gotten from the Housing and Home Finance Agency -- which might be interested in a national survey of selected metropolitan centers -- from local businesses, and/or from local or national foundations.)
2. ETV stations should attempt to match such funds with local corporations and individual donations or from governmental appropriations.
3. A specific percentage of funds so received should be made available for training future ETV personnel.
4. ETV stations should attempt to hire personnel who combine social concerns and professional skills.

At the national level

1. The federal government should be asked to finance the physical plant for new stations on the understanding that operating costs will be met locally.

2. The federal government should be asked to finance the development of direct linkages between ETV stations.

3. Careful study should be given to the proposition that ETV stations be granted exclusive rights to pay-as-you-view television. Entertainment programs with mass appeal could be shown on ETV channels, and a percentage of the revenue thereby acquired would accrue to the station.

?

4. A systematic study should be made of possible adult audiences willing to pay for ETV programs designed for their special needs, e.g. professional groups.

5. Serious thought should be given to establishing a national agency, supported by both private and government funds, to identify, initiate and contract for research, and to coordinate program production and distribution. Much better application could be made of funds currently or subsequently available if a statesmanlike agency existed to coordinate such activities. This agency could coordinate national fund-raising, and provide materials and techniques to assist local stations in local fund campaigns.

6. A White House conference should be called to discuss the total subject of educational television.

Other

1. The Morse Communication Research Center should assume the responsibility of calling together a small group to refine and take the next step in implementing the various recommendations made above.

2. The Conference considers it desirable that educational television solicit local voluntary contributions. But it places itself strongly

on record as believing that this medium cannot move forward on such an uncertain, limiting financial basis.

Conclusions

A few further comments are needed to amplify the general intent of the Conference, its unanimity regarding the recommendations made. The resources made available by Congress through the Educational Television Facilities Act constitute a major step in providing capital funds needed for the expansion of educational television facilities. Given the support of public school systems, television for instruction seems assured of basic support. Sufficient funds are in sight to meet the programming needs, provided some cooperative use of funds occurs in the production and exchange of programs. Exchange is not yet possible; the precise mechanisms for achieving this either do not exist, or are hampered by confused rights of ownership. The major problems appear to be efficient use of resources. Money is needed for research and development on television for instruction. Funds are less likely to come from local and state levels, than from the federal, because of the lack of any local tradition for this type of support.

One largely untapped resource in this area is the educational publisher. In 1962 school and college textbook sales exceeded $400 million and 23 publishers report sales of audio-visual[1] materials of over $7 million. Growth in sales has been pronounced during the past five years, not only in materials suitable for broadcast, but also in supplementary and insert materials. Textbook publishers have available talent and experience in the education field; also distribution facilities which the educational institution lacks. As instructional systems become more sophisticated, costly and complex, educational publishers will be understandably hesitant to invest until they are assured sufficient standardization exists to guarantee a market.

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[1] Robert E. Slaughter. The Role of Textbook Publishers in the Production and Distribution of Material for Educational Television. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

Educational television has attained much of its present status because of the generous foresight of the Ford Foundation, and contributions of private and public agencies, and commercial broadcasters. It has attained healthy status regarding school broadcasts. But its service to the adult community has scarcely begun. The possibilities for ETV in this sphere have been eloquently described. The Conference participants envision a television service as robust here as in the service of schools. They see some of the basic operational costs as being a legitimate item for local tax support. But the crucial items are quality programs; they are needed on a broad range of local to international topics. Talent, facilities and money are required to procure them. Their distribution requires some networking arrangement. The energies needed can never be released to such ends as long as educational television is disorganized and living on a month-to-month basis. An analogy can be drawn here with the development of arts and science in early cultures. This development could not begin until man was so productive in agriculture that food surpluses resulted and with them some physical energies could be released for such activity. Educational television needs to be assured of its subsistence for the release of creative energy which preceding recommendations demand.

By decision of a governmental agency, the Federal Communications Commission, educational broadcasters were cut off from sponsors' dollars, the most readily accessible source of funds. England and Canada found different solutions. The independent BBC is supported by an annual tax of $12 levied on each television set. The United States levies an excise tax on television sets which is paid by the purchaser, but the funds are used for regular government expenditures. Canada subsidizes the Canadian Broadcasting Corporation, but permits it to obtain part of its funds from the sale of time for advertising. Neither of these plans is at all likely in the United States. Yet government support for programs rather than equipment is possible without engendering government control of broadcasting. An illustration is the National Science Foundation through which government funds are made available for developments in the field of science.

The United States has a tradition of providing private support at the national level for problems of national concern. Such agencies as the American Red Cross, the Cancer Fund, the Tuberculosis Association, obtain their funds through closely coordinated local and national fund-raising campaigns. It has been frequently proposed that coordinated fund-raising campaigns on the national level are needed. The national agency envisioned by the participants of this Conference would be a private, non-profit corporation to serve as the coordinating agency through which private and public funds could be raised and channeled.

A quite different proposal has been made by Bernard Smith[2] who recommends that pay television be restricted to channels licensed to educational stations. It is his view that in a country with a gross national product over 550 billion dollars and a commercial television system earning over 200 million dollars before taxes, it is unthinkable that educational television should struggle for subsistence. Smith argues that if two hours

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2. B. B. Smith. Observations With Respect to Evening Educational Television Station Operation. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

of the 1 - 6 p.m. and 6 - 11 p.m. were devoted to broadcast of first-run motion pictures paid for by home viewers at commercial rates, the revenue of the stations would be sufficient to permit the use of the remaining six hours for educational and community use. He does not contend this amount of time would fulfill all of the needs identified in this report; it would create a sounder financial footing and perhaps also a larger viewing audience. Failing this, he believes like others that tax support is essential if educational television is to fulfill its potential. A monthly tax of 50 cents, which is less than the cost of the electricity to operate the television set, would provide gross annual revenues of 300 million dollars.

Pending such large-scale solutions, educational television will continue as it has, supported as much by the devotion and perseverance of the station staffs as by the communities. Low-cost networking arrangements at state or regional levels will probably emerge in order to increase the access to needed resources and to increase the reach of the stations.[3]

In the final analysis, consider these three questions:

Is the cost within our financial capabilities?

The reasoned estimate is that $100 million will be needed to build the facilities to provide anticipated educational television coverage in the next 10 years, and $125 million at a minimum to operate them. Such costs would be roughly one-fifth that expended to operate a similar number of commercial stations. To bring these estimates closer to conscious grasp, the cost estimates range from a hypothetical two cents per viewer for a fourth network, broadcasting programs of sufficient quality to obtain its equivalent share of the audience, to actual costs ranging between 8 and 14 cents per viewer hour at present audience levels. These hold for both school and adult programs. It is quite obvious that the costs are within our financial capability.

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[3] Michael J. Ambrosino and Hartford N. Gunn, Jr. Regional Network Operations. Waltham, Mass.: Brandeis University, Morse Communication Research Center, 1963 (multilith).

Is educational television worth this cost?

Essentially this involves a choice, and with it a decision about how we will allocate our financial resources. Families and federal governments are continually faced with such decisions. We cannot have all of the schools, hospitals, bombs, and battleships that we want. Two comparisons can be made to put the choice in perspective. If one is of the judgment that an hour of educational broadcasting is worth 50 cents to a family, which is half the cost of a neighborhood movie, then the necessary finances should be made available. It is fashionable, in making comparisons of relative worth, to contrast a particular cost with that of sending a spacecraft to the moon. Such comparisons are more rhetorical than practical, for no Congress would conceivably vote five billion dollars for ETV. A more prosaic comparison is to ask if ETV is worth as much to family and country as diaper services.

The final question is: can it be done?

There is little question that quality programs can be delivered at competitive costs in the classroom. And research offers evidence about how to improve the program quality and heighten instruction.

It is harder to answer the question in regard to community educational broadcasting. At minimum, it means developing new types of programs which possess enough appeal to attract a regular audience (a distinguishing feature of educational programs is continuity of development). These programs must combine some of the attractiveness of commercial programs, yet maintain an integrity of content. To achieve the community-action type of station recommended is still more difficult. It requires not only courageous, but objective broadcasters. Even more it requires independence, not only financial; a community must be sufficiently tolerant to see itself with neither deception nor rancor. This is no easy task, as our struggles with desegregation demonstrate. But our willingness as a people to face such issues is perhaps our greatest assurance.

APPENDIX A

EDUCATIONAL TELEVISION STATIONS SURVEYED

Alabama

WAIQ	26	Montgomery
WBIQ	10	Birmingham
WCIQ	7	Cheaha State Park
WDIQ	2	Dozier

Arizona

KAET	8	Tempe
KUAT	6	Tucson

California

KVIE	6	Sacramento
KVCR-TV	24	San Bernadino
KQED	9	San Francisco

Colorado

KRMA-TV	6	Denver

Connecticut

WEDH	24	Hartford

District of Columbia

WETA-TV	26	Washington

Florida

WUFT	5	Gainesville
WJCT	7	Jacksonville
WSEC-TV	17	Miami
WTHS-TV	2	Miami
WFSU-TV	11	Tallahassee
WEDU	3	Tampa

Georgia

WGTV	8	Athens
WETV	30	Atlanta
WXGA-TV	8	Waycross
WVAN-TV	9	Savannah
WJSP	28	Columbus

Illinois

WSIU-TV	8	Carbondale
WTTW	11	Chicago
WILL-TV	12	Urbana

Iowa

KDPS-TV	11	Des Moines

Kentucky

WFPK-TV	15	Louisville

Louisiana

KLSE	13	Monroe
WYES-TV	8	New Orleans

Maine

WCBB	10	Lewiston
WMEB-TV	12	Orono
WMEM-TV	10	Presque Isle

Massachusetts

WGBH-TV	2	Cambridge

Michigan

WTVS	56	Detroit
WMSB	10	E. Lansing

Minnesota

KTCA-TV	2	Minneapolis

Missouri

KCSD-TV	19	Kansas City
KETC	9	St. Louis

Nebraska

KUON-TV	12	Lincoln

New Hampshire

WENH-TV	11	Durham

New Mexico

KNME-TV	5	Albuquerque

New York

WNED-TV	17	Buffalo
WNDT	13	New York
WNYC-TV	31	New York
WMHT	17	Schenectady

North Carolina

WUNC-TV	4	Chapel Hill

Ohio

WOUB-TV	20	Athens
WBGU-TV	70	Bowling Green
WCET	48	Cincinnati
WOSU-TV	34	Columbus
WGSF	28	Newark
WMUB-TV	14	Oxford
WGTE-TV	30	Toledo

Oklahoma

KOED-TV	11	Tulsa
KETA-TV	13	Oklahoma City
KOKH-TV	25	Oklahoma City

Oregon

KOAC-TV	7	Corvallis
KOAP-TV	10	Portland

Pennsylvania

WHYY-TV	12	Philadelphia
WUHY-TV	35	Philadelphia
WQED	13	Pittsburgh
WQEX	16	Pittsburgh

Puerto Rico

WIPR-TV	6	San Juan
WIPM-TV	3	Mayaguez

South Carolina

WNTV	29	Greenville
WITV	7	Charleston

South Dakota

KUSD-TV	2	Vermillion

Tennessee

WKNO-TV	10	Memphis
WDCN-TV	2	Nashville

Texas

KLRN	9	Austin
KERA-TV	13	Dallas
KUHT	8	Houston
KTXT-TV	5	Lubbock
KRET-TV	23	Richardson

Utah

KUSU-TV	12	Logan
KOET	9	Ogden
KWCS-TV	18	Ogden
KUED	7	Salt Lake City

Virginia

WHRO-TV	15	Norfolk

Washington

KPEC-TV	56	Tacoma
KTPS	62	Tacoma
KYVE-TV	47	Yakima
KWSC-TV	10	Pullman
KCTS-TV	9	Seattle

Wisconsin

WHA-TV	21	Madison
WMVT	36	Milwaukee
WMVS-TV	10	Milwaukee

APPENDIX B

A SAMPLING OF THE BEST EDUCATIONAL TELEVISION PROGRAMS AND COMMERCIAL PUBLIC SERVICE PROGRAMS

General Educational Programs

Alpine Hiking -- KCTS-TV
The American Economy -- NET
Anatomy of Revolution -- NET
Casals Master Class -- NET
Computers in the Mind of Men -- NET
A Dancer's World -- NET
Intertel -- NET
Invitation to Art -- WGBH-TV
Magic Lantern to the Stars -- WNED
North American Wildlife -- KRMA
On Jobs and Men -- WUFT
Perspectives -- NET
Photography - The Incisive Art -- NET
Portrait Souvenir -- NET
Ragtime Era -- NET
Slant on Ballet -- KRMA
State Department Briefing -- NET
Survival in the Sea -- NET
Turn of the Century -- NET
What's New -- NET

Commercial Public Service Programs

American Musical Theatre -- CBS
Art Carney Meets Peter and the Wolf -- ABC
The Art of Ballet - Omnibus -- CBS
Bernstein on Beethoven's 5th - Omnibus -- CBS
Biography of a Missile -- CBS
Brinkley Journal -- NBC
Camera Three -- CBS
Communism: Myth vs. Reality -- KNXT
Countdown -- WBKB
Discovery -- ABC
Exploring -- NBC
Harvest of Shame -- CBS
Junior Sports Club -- WXYZ-TV
Michigan Unlimited -- WXYZ-TV
Music for the Movies -- KABC-TV
One Palace, FOB, Chicago -- WNBQ
Reading Room -- CBS
The Real West - Project 20 -- NBC

Commercial Public Service Programs (continued)

The Sounds of Jazz -- KABC-TV
The Sun is Not for Sale -- WRCV-TV
Superfluous People -- WCBS-TV
Take a Good Deep Breath of Filth -- WNBC-TV
Teen Age Unwed Father -- KNXT
Vincent -- WXYZ-TV
Walk Old, Walk Lonely -- KABC-TV
While the City Sleeps -- KABC-TV

Instructional Programs

Accent on Music -- NET
Contemporary Crafts -- WHA-TV
Exploring Nature -- WGBH-TV
Humanities -- Encyclopedia Britannica Films
Let's Figure -- KQED
Parlons Français -- NET
Patterns in Arithmetic -- WHA-TV
Patterns in Mathematics -- Wisconsin School of Air
Practical Politics -- 21" Classroom
Primary Concepts in Science -- Department of Public Instruction, Harrisburg, Pennsylvania
Sigamos Hablando -- KVIE
Space Science -- KQED
Story Friends -- KVIE
Time to Sing -- KCTS-TV

Foreign Instructional Programs

The Class -- BBC
Le Zero -- Institute Pedagogique National
The Air We Breathe -- Associated-Rediffusion
Non E Mai Trappo Tardi -- Telescula RAI
The Power of the Lever -- Associated-Rediffusion
Radio Astronomy -- Associated-Rediffusion
Ten Little Indians -- NHK
Les Os -- Institute Pedagogique National
Craft of Hands -- Associated-Rediffusion

APPENDIX C

FEDERAL GRANT FOR ETV STATION CONSTRUCTION

The preliminary plan of the Department of Health, Education, and Welfare plan for distributing the 32 million dollars to be set aside under the Magnuson-Roberts Bill for ETV station construction grants was as follows: 2 million will be held in reserve (as contingency), and the remaining 30 million will be distributed to the states on a percentage basis involving population and land area. Under the act, no state may receive matching grants in excess of $1 million.

Table of temporary limitation by state

State or possession	Amount	State or possession	Amount
Alabama	$ 544,314	Nebraska	$ 493,281
Alaska	1,000,000	Nevada	561,325
Arisona	646,381	New Hampshire	300,000
Arkansas	425,235	New Jersey	595,348
California	1,000,000	New Mexico	663,393
Colorado	663,393	New York	1,000,000
Connecticut	300,000	North Carolina	680,404
Delaware	300,000	North Dakota	391,211
District of Columbia	300,000	Ohio	1,000,000
Florida	731,439	Oklahoma	544,314
Georgia	646,381	Oregon	629,370
Hawaii	300,000	Pennsylvania	1,000,000
Idaho	459,257	Rhode Island	300,000
Illinois	1,000,000	South Carolina	357,190
Indiana	612,359	South Dakota	425,235
Iowa	527,303	Tennessee	544,314
Kansas	595,348	Texas	1,000,000
Kentucky	476,268	Utah	476,268
Louisiana	527,303	Vermont	300,000
Maine	300,000	Virginia	561,325
Maryland	340,180	Washington	595,348
Massachusetts	510,291	West Virginia	300,000
Michigan	1,000,000	Wisconsin	646,381
Minnesota	714,427	Wyoming	493,280
Mississippi	425,235	Puerto Rico	300,000
Missouri	731,439		
Montana	765,460		
		Total	$30,000,000

Source: D. C. Stewart. Summaries of Six State Network Plans and Divisions of Funds by State. Washington, D.C.: National Educational Television Center, 1963.